THE CULTIVATOR

THIRD] TO IMPROVE THE SOIL AND THE MIND. [SERIES.

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THE CULTIVATOR has been published twenty-seven years. A NEW SERIES was commenced in 1853, and the eight volumes for 1853, 4, 5, 6, 7, 8, 9 and 60, can be furnished, bound and post-paid, at $1.00 each.

TERMS—FIFTY CENTS A YEAR.—Ten copies of the CULTIVATOR and Ten of the ANNUAL REGISTER OF RURAL AFFAIRS, with one of each free to the Agent, Five Dollars.

"THE COUNTRY GENTLEMAN," a weekly Agricultural Journal of 16 quarto pages, making two vols. yearly of 416 pages, at $2.00 per year, is issued by the same publishers.

The Object of Agricultural Reading.

That "there were heroes before Agamemnon," and Good Farmers previously to the days of Agricultural Journals, are both indisputable facts. Men breathed the air, and were drowned in water, and drank wine, before they knew from one another the elements which enter into the composition of each, or had studied the action of the lungs and the chemistry of digestion. "Are we the richer," queries Lord Bacon, who with all his love of *theory* thus sturdily stands up for the priority of *practice*—"are we the richer by one poor invention, by reason of all the learning that hath been these many hundred years? The industry of artificers maketh some small improvement of things invented; and chance sometimes, in experimenting, maketh us to stumble upon somewhat which is new; but all the disputation of the learned never brought to light one effect of nature before unknown. *When things are known and found out*, then they can descant upon them, they can knit them into certain causes, they can reduce them to their principles. If any instance of experience stand against them, they can range it in order by some distinction."

What was more broadly true in other Arts, before Bacon's time, remains in great measure true of Agriculture still. Practice precedes Science. It is the business of Science to explain the things that "are known and found out" in Practice; and these things, and the progress of Science in their explanation, it is the business of the Agricultural Journal to record and render as widely accessible as it can. We venture to assert that the best farmers who lived in the era before Agricultural reading was within reach, neglected no means they did possess, of informing themselves as to the practice of others—not only in their own neighborhoods but also in other lands. We doubt moreover if they did not—each as he was, more or less, a "learned man," endeavor to "knit into certain causes" the events of his daily life, and to "reduce to their principles" the teachings of his constant experience. The fruits of these latter efforts, indeed, are seen in many a maxim which still retains its hold upon the popular credence, even when subsequent investigation or the progress of learning has shown it to be totally at variance both with probability and truth.

The point to which we are coming, and to which it appears no more than *seasonable*, as well as reasonable, that we should ask especial attention at this time, is the groundlessness of two objections which are frequently urged by farmers when the importance of reading an Agricultural journal is pressed upon them—namely, that they "already know more good farming than they can put in practice," or that there "were just as good farmers fifty years ago, when no one thought of a farmer's paper, as there are now."

The truth is—and it is well expressed by Mr. Mitchell in his late New-Englander contribution—"the best farmer then, as the best farmer now, is the man who has the largest practical familiarity with the great class of facts, whether scientific or experimental, which has a bearing upon his trade. This class of facts," he continues, "is enlarging every year;" to keep up with their progress the farmer is now offered the simplest and cheapest of all ways, in the Agricultural journal—and it is the very purpose of the facts and opinions therein narrated to point out *how* the good farming that is old and already known, *has been and may be* renewed in the successful practice of the individual—to adduce hundreds of "instances of experience," which each, according to his own circumstances, "can range in order by some distinction."

Mr. Mitchell more than intimates, it is true, in the article just quoted, that "Youatt and Liebig's Letters, and Johnson's Muck Report, and files of the COUNTRY GENTLEMAN and Homestead," or "all the best implements," or "a few calves from Mr. Thorne," will not—alone or together—serve the purpose of "that business tact, and energy, and shrewdness, which are, after all, at the bottom of all good farm management." But the possession of these, is the gaining of *just so many additional points* in the competition with one's fellows. Mr. M. is right in asserting that "ignorance of the principles on which good farm practice rests, is quite consistent with an adroit management of a great many practical and patent truths," but he is none the less correct in assuming that "THE BEST cultivators of any country or age have invariably wrought up to the topmost level of the science and information of their day."

We do not, then, represent a "file of the COUNTRY GENTLEMAN," or all the volumes of THE CULTIVATOR as a universal panacea for bad farming, any more than we regard anybody's superphosphate as a universal preventive of bad

crops. But we do regard either as shedding a light upon the "things that are known and found out" in practice, to go back again to the Baconian quotation—which no farmer who desires to be on a "level with the science and information of his day" can afford to be without; *and it is now just a time of year when we are compelled to ask the aid of every reader who agrees with us, in extending this opinion—the more widely the better—among his friends.* Scattered as our subscription list is, through every State and Territory,—there is abundant room for its great extension by a very little effort on the part of individual readers; and in again renewing our expression of thanks to those who have thus exerted themselves in the past, it is in the confident hope that their example will give rise to its own more general imitation in the future, and that both THE CULTIVATOR and the COUNTRY GENTLEMAN will be welcome visitors at many more firesides during the coming year than ever before.

We may remind those who kindly undertake the task of extending our circulation, that any who decline to subscribe for the COUNTRY GENTLEMAN on account either of its price or because "they would have no time to read it," will obtain in THE CULTIVATOR, monthly, a less frequent visitor which they can surely find the leisure to consult, while in point of price, as compared with the amount and value of its contents, we have no hesitation in ranking it as the cheapest Publication in this country. "For five years past THE CULTIVATOR," says an Ohio subscriber, whose letter comes to hand as we write, "has made its monthly visit at my house, *without an omission*, and at each visit has come filled with so much valuable information that I regard it as a *necessary of life.* A few neighbors and friends have read it for several years, and I intend that more of them shall do so, for its cheapness places it within the reach of all, and certainly no farmer can AFFORD to do without it. I have some neighbors who are 'wise in their own conceit,' and despise book farming; but let them have a sick calf, and they are ever ready to look over my volumes of the THE CULTIVATOR."

The club rates of THE CULTIVATOR are *Ten Copies, together with the* ANNUAL REGISTER *for* 1861, *to each subscriber*, for $5; and any subscriber to the COUNTRY GENTLEMAN, making up such a club for the *Cultivator and Register*, will receive a copy of the REGISTER for himself, and be entitled to his COUNTRY GENTLEMAN for one year at the club rate of $1.50.

Clubs for either the CULTIVATOR or the COUNTRY GENTLEMAN are addressed to each subscriber individually at different post offices, if so desired. Subscribers in the tish Provinces are reminded that 6 cents must be added for each CULTIVATOR and 25 cents for each COUNTRY GENTLEMAN, to prepay American postage to the lines. The Club Terms of the COUNTRY GENTLEMAN and inducements to Subscribers to THE CULTIVATOR, will be found on page 38.

EXPORTS OF FLOUR AND GRAIN.—There were exported from this country to Great Britain and Ireland, between Sept. 1 and Nov. 16, 1860, 7,799,057 bushels of wheat, while during the same period in 1859, only 183,907 bushels were exported. The flour sent during the same period in 1860, was 584,116 barrels, against 76,290 in 1859—making an increase in the value of wheat and flour—calling the wheat $1 per bush. and the flour $5 per bbl.—of $10,154,280.

"DON'T ATTEMPT TOO MUCH."

The "besetting sin" of a great many people is that they attempt more than they can accomplish—begin to build without considering the cost of finishing the structure planned—and the caution above written, is one as often needed by the farmer as by the members of any other class of community. Especially is it a folly of the farmer to "attempt too much" in extending his labor over a large space; and the more we see of farm management, the stronger is our conviction that concentration in expenditure of labor and capital is the great need of our system of agriculture. The contrary plan of expansion very generally prevails; the farming is "laid on thin," the ground is "run over" rather than cultivated, when, to secure any reasonable profit it only needs to be farmed well and thoroughly, employing no more land than can be fitted for the crop in the best manner.

Just look at the matter. Is it good policy to expand the labor of putting in a crop over six acres, when at the same cost a like result may be realized from three or four? That is, put double the labor in preparation and culture and twice the manure per acre; and, taking out additional cost of seed, rent, and taxes that must be paid, were you to sow the larger number of acres, you will get as much or more profit from the three as from the six. Besides, the satisfaction of looking at and gathering the crop, and the credit it will be to you as a farmer.

It is too frequently the case that a great number of poor animals are kept at no profit, while a few good ones would give a handsome return. A cow which makes only just enough butter to pay for her keeping is a poor investment, when we may as well have one which will do twice as much, and cost no more for pasture and meadow. The same is true of growing stock. Good cattle well fed, will grow and will sell at good prices—"scalawags" are poor property to the owner, hard to keep, and still harder to dispose of at cost, to say nothing of profit. Better two or three good calves than a dozen stunted scrubs; better a few prime sheep than a large flock of worthless ones; better to count value than number, and bushels and tons than acres, with only light crops.

Farmers attempt too much when they furnish other interests with capital to the neglect of their own farms. There is no outside investment equal to one judiciously made at home. Draining, manuring—all real improvements—return better interest than stocks or mortgages, and should employ the capital of the farmer.

A New Tomato.

The *Gardener's Chronicle* of Nov. 24, thus notices a new tomato, recently produced in France:

It appears in a circular from Messrs. Vilmorin that they are offering seeds of A NEW UPRIGHT TOMATO, which requires no support. This plant is said to be entirely different from the kinds previously known. Its stem is two feet high or more, quite upright, and so remarkably strong and stiff as to be strictly self-supporting—a highly commendable quality. It branches less than the common great red tomato, is less leafy, and does not want so much pinching. The leaves are rather curled, much puckered, very firm, and closely placed on the sturdy branches. Their color is a remarkably deep shining green. It does not bear so freely as the common tomato, but its fruit, which is of the same color, is larger and more regularly formed. In earliness it is intermediate between the Early Red (*rouge hative,*) and the Great Red (*rouge grosse.*) It was raised from seed by Grenier, the gardener of M. de Fleurieux, at a place called the Chateau de Laye, wherefore it is to be called the *Tomate de Laye.*

The Cultivation and Management of Sandy or Light Soils.

In almost every section of our country there are tracts, of greater or less extent, of sandy, gravelly, or light loamy soils. Even in New-England, notwithstanding the mountainous and rocky character of many sections of it, in the aggregate there is within its limits immense quantities of light sandy lands, which generally, when spoken of, are designated as "pine lands," as the original forest growth when the country was first settled, was mostly composed of the white and other varieties of pine trees. These soils are the result of past geological agencies, and by geologists are termed drift or diluvial, while the lower-lying lands, borderiug our rivers and smaller streams, are called alluvial soils—in some sections they are termed "bottom lands;" in other, intervales. The alluvial or intervale lands are frequently the most productive and valuable lands we have, though they vary somewhat in natural fertility and agricultural value.

The diluvial or sandy soils, generally forming the second terrace above the rivers, vary greatly in their natural fertility and agricultural value, aside from their nearness to or remoteness from markets. These differences are generally owing to the chemical, mineral and physical composition of the earthy materials forming them; some of which, if they can be called soils, consist almost entirely of fine silicious sands, barren or destitute of vegetation of any kind. Large tracts of such are found on Cape Cod and elsewhere. There may be particular locations and other conditions where the reclamation, by heavy dressings of clay or muck and manure, of such "blowing sands" may be made to pay; but as long as the best of land in unlimited quantity can be purchased at $1.25 per acre, most of these sands had better be left to the sport of the winds.

We do not now recollect of having seen any published account of extensive and valuable improvements, being made upon these barren sands in this country; but in the course of our agricultural reading we have been made acquainted with many extensive and profitable improvements of the better qualities of these light soils; and these improvements have been made in various sections of this and other countries, and by different methods, and of course at great difference of cost, but generally we think they have returned a fair profit for the outlay; and it will be our object in this, to lay before our readers some account of the various methods that have been pursued by different farmers to improve and render fertile and productive much of the badly managed and worn-out light soils under consideration, for they possess some valuable inherent qualities over clayey and other stiff heavy soils. They are easily plowed and cultivated; they require no drainage, and though light and dry, are quick and kindly, and in wet and otherwise favorable seasons, they usually yield good returns for the labor and manure bestowed upon them. In some sections of the country, particularly in portions of New-England, the past season has been wet and cool, so much so that immense quantities of corn there, on strong upland and clayey soils, failed to mature, while in the same neighborhoods the "pine lands" have given good crops of sound well ripened corn. And it is the opinion of many good farmers with whom we have conversed, that taking a series of ten years in succession, Indian corn can be grown at a greater profit, or cheaper per bushel, on these sandy plains, than it can be on the stronger rocky upland soils. The profits in favor of the light over the clayey or otherwise stiff soils, are in consequence of the greater ease and facility with which they can be plowed and the crops cultivated, when contrasted with the more compact and heavy soils alluded to. Our usually hot summers and occasional severe drouths, are sometimes a serious obstacle to the profitable culture of these light and naturally drained lands, but by judicious management much may be done towards averting the ill effects of drouth, to which we shall allude in course of our further remarks.

In the hottest and dryest portions of our summers, there is an immense escape of water in the form of vapor from an acre of sandy soil. Could a moiety of this be retained for the use of the crops, but little injury would result from lack of rain.

In many locations clay is found in the vicinity of sandy soils, and can be most profitably used to improve them. "For this purpose," says Allen's American Farm Book, "the clay should be thinly spread in autumn upon sward land previously plowed, and the winter's frost will effectually separate the particles. It should then be harrowed thoroughly and deeply in the spring, and subsequently plowed if necessary. Such a dressing on a light crawling sand is more than equivalent to an equal quantity of the best manure, and will be permanent in its effects. Clay and sand are necessary to each other, as they both contain qualities which are essential to a good soil, and that will always be found best which has the proper proportion of each."

But there are thousands of localities where clay cannot be profitably employed in the improvement of light soils. The use of clay would prove too expensive in consequence of the great distance it would have to be carted.

Wood ashes, either leached or fresh, in some places can be obtained in large quantities, and at reasonable rates, especially at the pot and pearl ash factories. Leached ashes contain but little potash compared with the unleached, yet they have in their composition all the inorganic or ash constitutents of our cultivated crops, and their application to light dry soils, generally exhibits very favorable and marked effects, much improving their moisture-retaining qualities, and highly favoring the growth of corn, grain, &c. But the farmers should always bear in mind that the tendency of ashes, lime, plaster, or even guano, when applied alone, is to hasten the exhaustion of tillage land—or rather, it is the increased "crops, or what is taken off the soil in the removed crops, that exhaust it." Therefore their use should always be accompanied with farmyard manure, prepared muck, or the turning in of green manure, such as clover, buckwheat, oats, cow pea, &c.

We have at different times read the published accounts of the great improvement made by Adam Anthony upon a worn out sandy farm in North Providence, R. I. In 1826, when Mr. A. came into possession of it, "the farm was in very poor condition. There probably was not more than six acres that would have defrayed the expense of cultivation for one year only. The crops that year were five tons of hay, two of oats, and three tons of bog hay scarcely worth the cost of procuring; no corn, and about 200 bushels each of potatoes and turnips." "Prior to the period above alluded to, the sandy portion of the farm had been occasionally planted with corn, the crops on an average yielding about eight bushels to the acre. It afforded nothing for the scythe, and of little value for grazing." "The crops obtained in 1838, from 63 acres, were 100 tons

of hay, barley and millet, corn fodder and green stalks, equal to five tons of hay; 12 tons of pumpkins, 175 bushels of corn, 400 of potatoes, 330 of turnips, 30 of beets, and a supply of other vegetables for the table. The potato crop that year was a failure. In an ordinary season the yield would have been from 1,500 to 1,800 bushels."

Excepting 20 cords of manure purchased in 1827, no manure, except ashes, has been bought for the farm. Of these about 900 bushels annually on an average for the last thirteen years. [We presume the ashes were from the soap makers, after having been leached, as there was about 200 bushels per acre applied.]

Ashes have been the *basis* in the improvement of the sandy and most sterile parts of the farm. The land was plowed, ashed, and millet and southern clover seed sown, finely harrowed, and *finished off with a heavy roller.* The millet averaging 1½ tons per acre; the clover was mown one or two seasons. Then followed by ashes, millet and clover. Two or three of these rotations would prepare the land for the corn crop. With the application of 30 loads of manure, his corn crop averaged 50 bushels per acre. Under this course of treatment the fertility of the land was continually augmenting and the balance sheet exhibited profitable results.

But it is not every farmer that is located in respect to markets, and the facility of procuring ashes, as was Mr. Anthony; but still his example, and the improvements in the crops and the once barren soil of his farm, are not without their use, especially to those farmers who can procure leached ashes from the potashery and the soap boilers at reasonable prices.

Green manuring, or the plowing in of green crops in their living state, for the improvement of light soils, is successfully practiced in many of the European States, and to a considerable extent in this country. Allen, in his Farm Book, says—"lands in many of our eastern states, which have been worn-out by improvident cultivation, and unsaleable at $10 per acre, have by this means, while steadily remunerating their proprietors by their returning crops, for all the outlay of labor and expense, been brought up in value to $50 an acre."

But he thinks the full benefit of green crops as manure seem only realized where there is sufficient lime in the soil; but adds—gypsum and ashes are the best substitutes when lime or marl is difficult to be procured.

Where the soil is sufficiently fertile to grow clover with the use of a bushel or two of gypsum per acre, it is a profitable plant to cultivate for green manuring. The seed is not expensive, its growth is certain and rapid, producing a large amount of stalk and leaf, and an abundance of long tap and other roots, which, when the subsoil is favorable, penetrates the ground to a great depth. The southern seed, when sown alone in April, will be in full bloom by the last of August, ready for the scythe or plowing in. Whether the western, southern, or northern seed should be sown for green manuring, can best be determined by comparative experiments. There is a difference of opinion among farmers, whether it is better to plow in clover while in blossom, or defer it till the seed has matured. When turned in, in its green state, the decomposition of the vegetable structure is more rapid, and there is a greater evolution of gases and acids, and their action upon the mineral constituents of the soil, (potash, lime, soda, &c.,) is more energetic than that of the ripened clover. But if the plants are suffered to mature their seeds before plowed in, their decomposition will be less rapid, the amount of inorganic matter stored in the ripe clover will be greater, and there will also be a larger per centage of woody fibre; besides, the matured crop carries with it a full supply of seed for future growth. The late Col. John Taylor of Virginia, strongly advocated the plowing in the matured clover, in preference to turning it under in its green state. The farmer can readily try the two methods; two or three carefully conducted experiments would decide for him the most profitable course to pursue.

The Cow pea is deemed one of the best of fertilizers in some of the southern states. But we are not aware of its having been used for that purpose at the north.

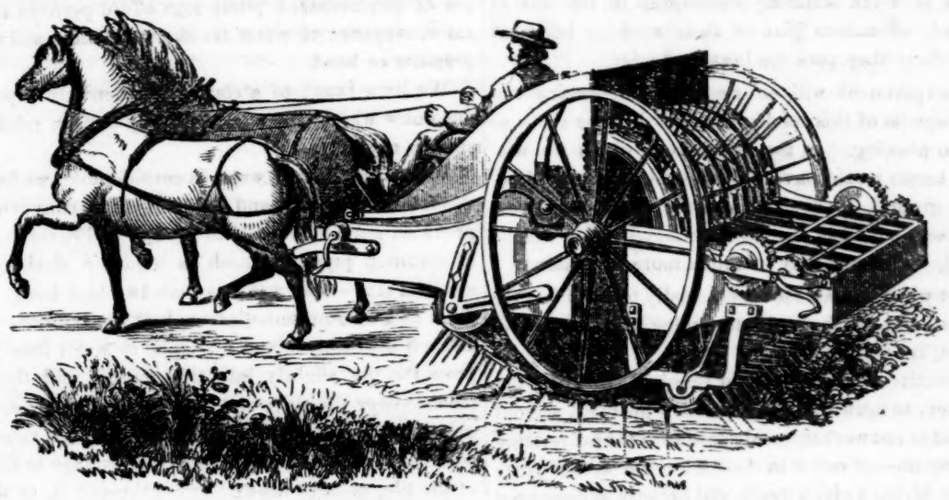
To countervail the injurious effects of drouth on light soils, there is practically nothing so effectual as the inversion of a close compact sod. The plow to be used for this purpose should be one which completely inverts and shuts in the furrow slice. The plowing should be followed by a heavy roller; there is little danger of getting the sod too compact, for it keeps the rising moisture below it from escaping—the decaying vegetable matter of the sod, sponge-like, retaining the moisture. The roots of the grain, grasses, or other crops upon the inverted soil, will penetrate the moist sod and keep the plants fresh and green, while the same plants on similar soils destitute of the inverted sod, will suffer severely for lack of moisture. To obtain a close sod, red top and June grasses are the best.

Some years ago we read in the New-England Farmer, some account of the great success attending the cultivation of large tracts of poor worn out pine lands in Northampton, by Col. W. Clarke, Jr. About that time we wrote to him upon the subject; in return, he kindly furnished the desired information. His course of culture was—"In the latter part of August and early part of September, with a good plow, to completely invert the sod, if there was any, then press down the furrows with a heavy roller; harrow the ground and sow with timothy and red-top seed, and then again used the roller." He remarked, "without the use of a *heavy roller* in the culture of these light soils, I consider them of little value; but with its use, I think them the most profitable lands we have, except some of the alluvial soils, that annually or oftener, receive by freshets, rich deposits of sedementary matters."

If there was a tolerable sod on the land when plowed, he seldom failed of obtaining from one ton to one and a half tons of prime hay the year after seeding. Where the land had but little sod, the crop was much lighter. This was neither mown or fed off, but all plowed in and the land new seeded, and a good crop was sure to follow. It was seldom that he applied manure when seeding down, though he had in a few instances applied a dressing of fine manure with good results. In treating land in this way, we think it would be well to sow clover and honeysuckle seed in the spring following the seeding, and apply one or two bushels of gypsum.

It is well known that on some soils gypsum fails to give any increase to the crops, while on others it produces wonderful effects. Experiments will determine the "profit or loss" of applying it to each farmer's soil. Wherever it produces such magical effects as above quoted, it is the most economical way of improving "worn-out sandy soils." Where this kind of land is so situated as to be irrigated, it is cheaply made to produce most profitable crops of hay, and the more sedimentary matter, especially if of a clayey nature the better.

We have thus written largely upon this subject, because we believe, under judicious management these light soils, taking a series of years together, are more profitable for cultivation than the rocky side hills of much of the arable lands now cultivated in New-England and elsewhere.



O'RIELLY'S AMERICAN TERRACULTOR.

On the 7th instant several gentleman were invited to witness at Rochester the operation of a new machine for loosening and pulverizing the soil, which has been constructed under the care of HENRY O'RIELLY, Esq., widely known for his energetic and successful labors in extending the lines of telegraph throughout the United States. This machine combines the essential features of Evans' Rotary Digger with Vernam's improvement on spading machines, and its object is a deep and thorough pulverization of the soil, not by simply inverting, as with the plow, but forking it up, and tearing it to pieces down to a depth of eight or ten inches.

The trial was made on the grounds of Ellwanger & Barry, two miles south of the city. The soil was a medium loam, free from stone, and the ground had borne a crop of carrots, which had been harvested some time previously. The surface was uneven, and the soil wet by the abundant rains. The machine was entirely successful in its operation, and reduced the soil to a condition quite similar to that of spading or forking, except that it did not invert it, but scattered and intermixed all portions promiscuously.

We need not describe minutely the machine, but shall merely point out the principle of its operation. The cut which we have given would convey a tolerable impression of its appearance, if the seed box behind (with its compartments) were entirely removed, and the heavy box frame were replaced with a lighter one. A series of endless chains are furnished with projecting teeth, like harrow teeth, and by revolving on drums or cylinders, pass around with the same velocity as the horses move onward. The teeth, which are about ten inches long, are thrust down into the soil by the machine, and remain there without moving until the moment they revolve around a low cylinder or roller behind. The short turn which the chains make in passing around this roller, causes the projecting teeth to sweep round in a larger circle, and thus to move three or four times as fast at this point as the chains which hold them. As a necessary result, this increased motion tears the soil to pieces and tosses it backwards.

The machine had been made very heavy in order to guard against breakage on its first trial. The manufacturers are confident that all necessary strength may be given, even if the whole weight were reduced 800 pounds, making it about a ton and a half, instead of nearly two tons, as it now is. It was drawn by six horses, although but four had been used. It pulverized handsomely a strip of land forty inches wide at each passing, and would consequently go over an acre in an hour, at a speed of two and a half miles an hour, if the team could endure it. When the horses walked rapidly, a portion of the earth was thrown off behind two feet high; when they walked slowly, it was thrown only a few inches. The pulverization was, of course, more complete in the former instance. The soil was left as loose as it could lie, the whole motion being to raise it, instead of pressing it down, as with a harrow, or crowding it into a mass as in plowing.

The advantages of this machine, as they appeared to us at the time, are:

1. It throws the soil up and loosens it thoroughly, instead of pressing it down as in harrowing, &c.

2. It forms no subterranean crust, as is always done by the sole of the plow, and the tread of horses' feet in the furrow.*

3. The teeth clear themselves completely of all obstructions, and cannot clog, in consequence both of the centrifugal force which they give to the soil, and by their sudden expansion asunder as the chains pass around the lower cylinder.

4. Its working is not attended with the heavy friction between the sod and mould-board always existing in plowing.

5. By taking a wider sweep of land at each passing, a single hand is able to direct a larger quantity of work daily than by the use of the single plow.

6. Should culture by steam be adopted at some future time, the use of this machine would be equally adapted to this force, and would not be liable to the imperfect work which the gang plow attached to the moving engine has hitherto made.

On the other hand a prominent drawback is the great weight of the machine—now about two tons, but capable of being reduced to one and a half tons, by lessening unnecessarily heavy portions. We are inclined to the opinion also that both its cost and its weight might be still more reduced by making the drums much smaller, and the endless chains shorter; for we see no advantage in such a

* We lately had occasion to inspect a piece of ground that had been plowed and was soon flooded by a creek, and all the loose or plowed soil washed completely away, leaving this under crust untouched, and showing every mark and scratch of the plow as it passed over. This crust had been made so compact by the whole weight of the plow and that of the turning sod superadded, that the flood made not the slightest impression upon it, although the soil was naturally quite uniform down to a depth of two or three feet.

large series of teeth standing immovably in the soil at once, the only efficacious part of their working being at that point where they pass the lower cylinder.

Further experiment will be needed to determine the relative cheapness of this mode of pulverizing the earth as compared to plowing. In the experiment which we witnessed, the teams would have worked separately and plowed as much ground, to nearly an equal depth, and with the same ease; but when the machine is reduced in weight as proposed, the results may be much more favorable.

The point which appears to us especially to need further investigation, and which would determine more or less its future value, is:

1. The relative force of draught required (by using the dynamometer) to draw the machine when the teeth are out of the ground or not working, and again with the pulverizing process going on—in order to determine the *actual force* needed to cultivate a given depth and breadth as compared with the same work done with the plow. This is a very important point to ascertain, and has an essential bearing on the economy of the forces. If the power of the wedge in the plow is more than overbalanced by the friction of the weight on the sole, and of the sod on the mould-board, rotary cultivation should be sought as the most economical of labor, independently of the other advantages we have mentioned.

This machine cannot work on stony ground—its weight and complexity, (and consequent cost,) appear to be the prominent objections. We think, however, these might be greatly lessened; and we are not sure but that when perfected it may become the very best machine yet devised, especially in connection with steam power, for the culture of the prairies and great farms of the west. At all events, the thanks of the entire country should be awarded to HENRY O'RIELLY for his enterprize and energy in this effort to find an improvement on the mode of pulverization, which has now remained essentially unchanged for thousands of years.

WATER-PIPES.

MESSRS. L. TUCKER & SON—For 30 years or more we have been conveying water into our barn and kitchen yards, a distance of some 600 feet, through logs bored out with two-inch auger made for the purpose—boring out one end of the log with a hob or taper auger—tapering down the other end so that one end of a log may be driven into the end of the other, thus making a water-tight joint about every twenty feet, the logs being that length; but these rot and get out of repair, and are a frequent trouble.

We want something more durable, and not so costly as iron or lead.

Is there not a clay tile or pipe that we could use with less cost? From the stream where the water enters the pipe to the barn-yard, there is a descent of some 10 or 12 feet—thence to the dwelling is an ascent of some 8 or 9 feet. Perhaps thus there is considerable pressure on the pipe in its lowest parts, and every joint must be perfectly tight. Can the clay pipe be made so? They would be covered beneath the ground so deep as not to freeze. Would covering them up in dirt be likely to cause them to moulder, or soften and become worthless in a short time?

If there is such pipe, how are they put together? Where to be had? Can a discharge pipe be inserted wherever desired? How long will they last, and what do they cost? Any information you can give on the subject will be much esteemed by A QUERIST. *Greenville, Tenn.*

If *durable timber* is selected, and the logs laid so deep as to be entirely beneath the reach of frost and the danger of displacement, pump logs afford perhaps the cheapest conveyance of water for short distances and with little pressure or head.

We have heard of a clay or earthenware pipe, but do not know where it is made, nor any facts in relation to its success or failure.

Where the flow of water is considerable, we have found the following a good and cheap mode of conveying water, provided good cement is to be had:—Provide a quantity of common pipe tile, such as used for ditching, of the smallest size—ours was less than two inch bore. Cut the ditch to a narrow smooth trough at the bottom—lay down an inch of freshly mixed hydraulic or water-lime mortar—press the tile slightly into this mortar, and then with a trowel cover the sides and top with the same mortar laid on about three-fourths of an inch thick. A rope covered with cloth so as to make it just large enough to fit the bore of the tile, must be drawn forward through it, as the laying progresses, to wipe out the inside smoothly, and prevent mortar from protruding through the cracks. After drying enough, the ditch is filled. If an inch or two of water-lime mortar were made to surround the tile, and it were allowed some weeks or months to become thoroughly hardened, doubtless it would bear the eight or nine feet pressure which our correspondent mentions; but we think in this case it would be most prudent to apply a second coat of mortar, to guard against leakage. The smaller the tile, the less the surface of pressure, and the safer it will be from giving way. Well burned tile will never soften in the soil. Tile with about an inch and a quarter bore might be made expressly for this purpose, and would make an excellent channel. It should be safely a foot below the deepest freezing.

A discharge pipe may be inserted at any place, but the water should flow through it unremittingly, as successive checks are apt gradually to deposit sediment.

[For the Country Gentleman and Cultivator.

Husking Corn---Who Can Beat It?

During the past week there has been a little strife here among huskers, to see how much one could husk in a given time, and Luke Divine, a young man of 21 years, who works for me by the month, husked in one forenoon, and quit at 12 o'clock, *forty bushels*, and bound up all his stalks but five stooks. I superintended the measuring of it, keeping tally with my own pencil, and I know the measure was correct and liberal.

The corn was of the white-flint variety, and grew on a portion of an old field from which every thing has been removed for more than forty years, and nothing returned to the soil until within a few years past. All who saw the corn while it was standing, affirm that there was no such corn in this region, notwithstanding we have had a poor season for Indian corn.

Now if any man or boy can beat this, we shall be pleased to hear from them, through the Co. GENTLEMAN and CULTIVATOR.

S. EDWARDS TODD.

Lake Ridge, Tompkins Co., N. Y.

MULCHING WHEAT WITH BUCKWHEAT.—A writer, quoted in the Genesee Farmer, advocates sowing buckwheat with wheat in the fall to afford it protection in winter. He says the buckwheat will often grow two feet high before the frost kills it. It will catch the driving snows, and prevent the winds from sweeping the earth away from the tender roots on light lands. It protects the plants from heaving out by the frosts, and affords nourishment as it decays in the spring to the wheat when it most needs its aid.

[For the Country Gentleman and Cultivator.]

Home-made or Cheap Cattle Scales.

I have made me some cattle scales, and thinking them cheaper than Fairbanks' best, (first cost alone considered,) and correct enough for most uses, and also within the pecuniary reach of "small-fisted farmers," I will give my method of making them.

Take two pieces of tough ash timber, 2½ inches square and 88 inches in length, and put your fulcrum at one end and your weight 8 inches from the same end, and the hook of a pair of common steelyards (or what is better, a scale beam) at the other, and you have the principle.

If you lift one pound at the long end you will lift ten pounds, placed eight inches from the other, (exactly not counting the weight of the stick;) therefore if your scale bar (in weighing) indicates 2 lbs., annex a cipher which makes 20, and 3 lbs. 30, &c., 2½ 25, 2¼ 22½, 2¾ 27½, &c., or in other words, multiply by 10.

Now for a platform for your cattle to stand on. The annexed diagram of the levers or arms, with the platform removed, will help to illustrate.

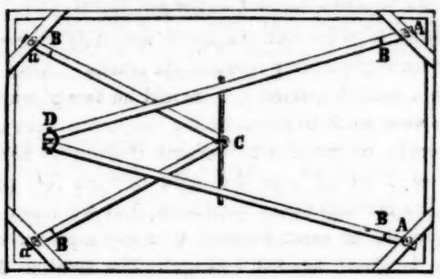


Fig. 1.

A. D. are the long arms, 88 inches in length, and A. C. are two short arms a little more than half as long as the long ones, as they have to come together at the point C, which is just half the distance from a to A.

The short arms must be under the long ones and be fastened to them at C., as in the figure, but not solid as they must swing. The outside frame is made of plank 2 by 8 inches, which makes the frame 8 inches in height, and it ought to be 4 by 8 feet in width and length.

The points A. A. hang under a strip of plank 1½ by 8 inches, which is fasened across the top of the frame.

The points a. a. are hung under the pieces which are fastened across the corners, and which are let down into the frame. The platform is made of 1½ inch bass or pine plank, about 7 feet long and 4 wide, with three strips or cleats across the under side.

The two end cleats of the platform are provided with steel sockets under their ends, which rest on the steel points of the levers at B. B. B. B. Have four clevises made, with each a staple or bolt 3 inches long with an eye in one end to put the clevis through and a nut on the other end. The clevis pins are made of steel, of the size and nearly the shape of a common three-cornered file, which are put through the ends of the arms at A. A. a. a. The staples are then put up through the pieces, which are across the top and corners of the frame, and the nuts screwed down tight.

Remember the arms and platform must swing, and the staples at a. a. must be an inch or two longer than the others.

At the end of the frame near a. a., fasten two pieces E. E. (fig. 2,) upright about 3 feet high, with a strip 2 by 4 inches across the top to hang the scale bar on. The upright pieces are to be fastened to the side-pieces of the frame, directly opposite a. a., so that the cross-piece shall be over the point D. (fig. 1.)

The staple which goes up through the cross-bar F. (fig. 2) should have a nut on its upper end so that if the chain G. (fig. 2) is too long or too short it can be remedied by turning the nut. This staple should be as far to the left of the center as the distance is between the pivots of your scale bar, fig. 2. (The chain G. is to be fastened to the end of the long arms or levers at D., fig. 1.)

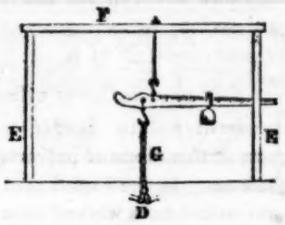


Fig. 2.

The expense of the irons is from $3 to $4, and any carpenter can make the rest in a day.

It will require some skill to hang them exact, so that the scales will balance alike when the weight is changed from one corner to another.

The points B. B. must be farther from a. than from A.

A scale beam, which will weigh 400 lbs. costs about $3—that will weigh on my scales 2 tons.

USES.—A butcher or cattle dealer can guess very nearly what an animal will weigh—much nearer than a farmer can who guesses only four or five times a year and then does not *know* whether he guesses *right* or not. They make money by guessing the weight of the animals they buy.

I think I have saved the price of my scales several times over, in selling by actual weight. I think that many, and perhaps more than half of the farmers, lose more by guessing at the weight of the animals they sell, than to pay for several sets of such scales. What would you think of a groceryman who guesses off the weight of his goods?

You can weigh hay or bags of grain, &c.; in fact they are very convenient for weighing any coarse article.

I stall fed several head of cattle last winter, and I made some experiments in feeding and weighing, and perhaps (if agreeable to you,) I may copy some of them from my memorandum book for your readers. WM. PEASE.

Oswego, Oct. 1860.

No one can make this weighing machine properly, who does not well understand the principle of the lever and its application in the construction of common weighing machines. To make the whole intelligible to all readers, we copy the following short and clear explanation of the principle of the platform scale, from *Thomas' Farm Implements*:—

A valuable combination of levers is made in the construction of the *weighing machine*, used for weighing cattle, wagons loaded with hay, and other heavy articles. The wagon rests on the platform A. (fig. 3,) and this platform rests on two levers at W. W., which presses their other ends both on a central point, and this again bears on the lever D., the other end of which is connected by means of an upright rod with the steelyard at F.

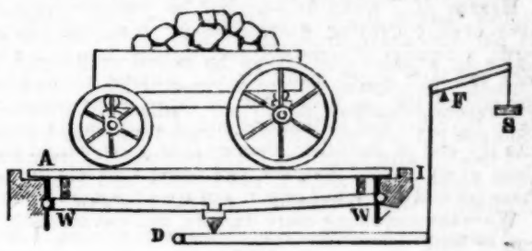


Fig. 3.

There are two important points gained in this combination. In the first place, the levers multiply the power so much that a few pounds' weight will balance a heavy load of hay weighing a ton or more; and, in the next, the load resting on both the levers, communicates the same force of weight to the central point, from whatever part of the platform it happens to stand on; for if it presses hardest on one lever, it bears lighter, at a corresponding rate, on the other. In practice, there are always two pairs, or *four* levers, which proceed from each corner of the platform, and rest on one point at the center. We have taken the two only, to simplify the explanation.

The only difference between the above described machine, and that described by our correspondent, is in the omission of the lower lever D. of fig. 3, by the extension of the long bars in fig. 4, thus simplifying its construction,

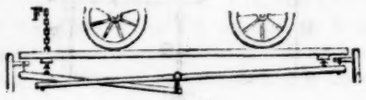


Fig. 4.

and rendering it less liable to get out of order, and better fitting it for construction by the farmer.

We have made drawings from the rough sketches given, and trust we have made no error in doing so.

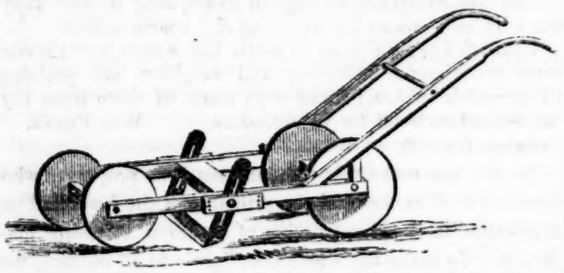
A detail of the experiments in feeding, to which our correspondent alludes, will be very acceptable.

[For the Country Gentleman and Cultivator.]

Implements for Cultivating Root Crops.

EDS. CO. GENT.—With this I send a rough sketch, drawn by my son, of a machine loaned me by one of my neighbors for cultivating between the rows of roots and vegetables, which I think highly useful, and which I do not remember to have seen described, or for sale at any of our agricultural stores.

One great difficulty in machines to work in roots, with me, has been that they cover the plants with earth while cutting up the weeds. The especial benefit in this is, that it can be run close to the rows without doing this.



The drawing will probably be sufficiently plain without an extended explanation. A frame is made of 1¼ inches square, hard wood, 2 feet long by 10 inches wide, with two cross pieces framed through the middle. At each end of the frame are wooden axles, the forward one with two small, and the hind one with one large wheel. The knife is placed between the wheels, some two to three inches lower, and as the machine is pushed forward wheelbarrow fashion, it cuts the weeds. The knife is made of an old draw-shave knife, and bolted on the side of the frame in a groove, so it can be raised or lowered, as desired. Its great simplicity of construction is one of its best recommendations, as any one familiar with the use of tools can get one up. The wheels are from 1¼ inch plank, and banded with hoop iron. The two wheels forward are quite necessary, to make it run steadily, and not allow it to careen. WM. J. PETTEE. *Lakeville, Conn.*

November 10.—Since the above was penned, I have discovered another use to which this implement can be profitably put, viz., cutting off the tops of the carrots before they are pulled. This is done by elevating the knife so it will run just even with the crown of the root, and then running it directly over the row. Perhaps the digging is not done as speedily, but I have no doubt it is a great labor-saving operation. One boy has done them as rapidly as three men could dig, while ordinarily the topping has been just about as expensive an operation as the digging. W. J. P.

To Destroy Bed-bugs.

Scald the bedstead once or twice a year, and fill all the cracks with corrosive sublimate and lard mixed. Then freedom from such nasty vermin, and sweet sleep at night, will reward your labors. S. B. B.

[For the Country Gentleman and Cultivator.]

Self-Recuperative Power of Worn-out Lands.

MESSRS. EDITORS—Several years ago I made the statement, through your paper, that all worn out lands, and even lands naturally barren and unfertile, possessed the power of self-recuperation. I mean that all poor lands may be brought up to a very high state of fertility from the means produced upon the land, without the aid of any *foreign* manures. I remember that the editor at the time I made the statement, was rather incredulous relative to the correctness of the proposition. I propose now to illustrate not only the *possibility*, but the *practicability* of the thing.

Suppose a man take twenty acres of land, so poor that it cannot, by the most careful tillage, produce more than *ten* bushels of corn to the acre. Now, suppose the man plants the twenty acres, and does for it all that can be done by the plow, the cultivator and the hoe. According to the supposition the field will produce 200 bushels of corn.

Now, suppose that, instead of harvesting the corn, it should all be turned under in the fall to rot, and the field planted again the next year. The second crop would probably not be less than 15 bushels to the acre, or 300 bushels on the field. Let the same course be pursued for ten years, and the whole field would be brought up to the highest state of fertility.

But now, instead of plowing the corn under from year to year, it should all be saved, the stalks and corn, *carefully*. Let the corn be fed to hogs, and the stalks to other animals, and in circumstances that every grain, both solid and liquid, can be saved to be returned to the land again. I say, *again*, when in fact but a small proportion of the grain came from the soil, but from the atmosphere in the form of *carbon, air and water*.

By the plan I propose, by adding coarse materials sufficient to save all the urine, the manure made would amount to more than all that was produced upon the field. The loss from the growth of the animals, in this case, would be far less than the amount of the necessary absorbents for the urine. Nothing would be lost, in fact, in the growth of the hogs, except what would be taken up in the bone, for on slaughtering the hogs, all the intestines, hair and blood should be put in the compost heap, to be returned to the soil again.

Suppose ten hogs only were raised and fatted in the year, those ten hogs should be made to manufacture 100 loads of the richest kind of manure. A span of horses, one cow, and an ordinary family of six or eight persons, would furnish the materials for manufacturing fifty loads more. All the excrement, both solid and liquid, of the horses, cow and the family, together with the waste slop of the family, should all be saved by plenty of absorbents, and all put into the manure factory carried on by the hogs. In this way the hog, in his factory, would earn more than he has cost, and more even than he will fetch in market after being killed. The droppings of the cow, after having gone through the manure factory, would be worth as much as the *milk* of the cow, and the waste from the family would produce all the *provisions* of the family.

Let any farmer pursue the course proposed above, for ten or fifteen years, and, with a proper cultivation, he would have no occasion to complain that his land was poor, or that Providence did not smile upon his efforts.

I know that many of your readers will be altogether incredulous, and call me wild and extravagant in my proposition; yet if an examination were to be made of their farms, barns, yards, hog pens and hen roosts, it would be found that from one-half to nine-tenths of all their manure was wasted, and their farms, orchards and gardens were producing but half of a crop of any thing. So the world goes. I have not finished this subject, but shall trouble you once more upon it. J. L. EDGERTON.

Waverly, N. Y., Nov. 13, 1860.

People are seldom tired of the world until the world is heartily tired of them.

When is a woman a vehicle? When she is a "little sulky."

[For the Country Gentleman and Cultivator.]

CULTURE OF CORN AND POTATOES.

MESSRS. EDITORS—I have received many valuable hints through the GENTLEMAN, from the publication of the different methods pursued by individuals in raising various crops. The plan is an excellent one—and, although it may not always be practicable to adopt the exact mode given, yet, with a little variation, it may be useful and labor-saving. Now, as I have received, so will I (with your permission,) "communicate."

In raising corn and potatoes, I proceed in this way. After the ground is plowed and dragged *fine*, it is marked out with a light plow, three feet apart for either crop, and four inches deep for potatoes, and three inches deep for corn. The seed is then dropped in as desired—potatoes, either in hills or drills. I have raised them both ways—corn three feet apart in the rows. To cover the potatoes I take a one-horse cultivator, without the wheel, and take out the front tooth, put on two horses and let them straddle the row, and the work is done rapidly. To cover the corn I use a small harrow, the same size of the cultivator, with fine teeth, four inches long—the front tooth out—and proceed as with potatoes. By using two horses and removing the front tooth to the cultivator and drag, the seed is not disturbed, and the covering is done well and much more expeditiously than with the hoe.

When the potatoes are just breaking through the ground, the light drag, with the front tooth out, is run *over* the rows in the same way as for covering. It should be well opened, so that it shall meet between the rows and thus clean and stir the whole ground. The corn, as soon as the rows can be followed, is treated in the same way, and in about a week thereafter, the dragging is repeated. When the potatoes are about three inches high, the *cultivator* is passed over the rows in the same way as when the seed was covered, giving the ground a thorough stirring. In this way I think the ground can be more thoroughly stirred and cleaned close to the growing plants, than by going *between* the rows, and a team that understands their business will tread out less of the plants than a single horse—at least this is my experience.

The after culture is done by working between the rows. For potatoes I use a double mold-board plow in working them out the last time. In raising either crop the ground should be kept clean and mellow. I have rolled the ground after planting, but think the roller packs it too much, and prefer rolling before planting, if the ground is lumpy, giving it another harrowing before planting. Of course stony ground cannot be managed in this way, as the drag would be likely to work stones into the furrows.

Jefferson Co., N. Y. J. L. R.

[For the Cultivator and Country Gentleman.]

To Bleach Broom-Corn Brush.

Dampen the brush with water, enclose it in a box, and apply the fumes of burning brimstone.

My manner of operating is this: I have a large box, made like a feed bin without partitions. It is three and a half feet wide, same height, and eight feet in length. Four inches from the bottom of the box is another bottom made of shingling lath laid in loose, the ends resting on strips nailed on the sides of the box. These pieces are an inch apart, to admit the free ascent of the smoke amidst the brush, which having been dampened, is stood up in the box on this false bottom. On the back side of the box, and between these bottoms, is a hole two inches in diameter, to receive the pipe conveying the smoke from the furnace—a flat iron pot with a sheet-iron cover, to the top of which the pipe is attached, and in which is also a small aperture with a sliding cover, to admit air forming a draught. The box will need to be elevated sufficiently to receive the pipe from the furnace, and the box must not be so tight as to exclude air, or the smoke will not circulate. The brimstone crushed into rather small pieces, is thrown into the pot, a piece of red-hot iron thrown into it, and the cover put on. With a pound of brimstone I have bleached brush enough for eight dozen of brooms. L. J. T.

Curing Hams.

On this subject, at a late meeting of the American Institute Farmer's Club, Mr. R. G. Pardee said "it depends partly upon how hogs are fed, but more upon the manner of curing than anything else, as to the quality of hams. They can be made almost as delicate as tender chicken. All hams should be cured by the following compound of articles: to 100 lbs. of hams use 8 or 9 lbs. of rock salt; 2 oz. saltpeter; 2 lbs. of white sugar; 1 qt. of best syrup; 4 oz. saleratus; 1 oz. allspice. These materials are boiled and scummed in ten or twelve gallons of water, and the hams packed in a barrel, and the brine put on cool, adding water if necessary to cover the hams. None but a new oak barrel should be used. Scald the barrel and cool it before putting in the hams. Let them lay three weeks and then take them out and air them twenty-four hours; put them back again three weeks, and then take them out and dry them thoroughly before smoking, which is done in an airy smoke-house, with cobs and maple or hickory chips. It is then a most delicious article of food. In smoking, be careful to keep your hams cool; never allow fire enough to heat the meat.

Preserving Shingles.

Every farmer knows that the cost of the roofs of his buildings, as well as keeping them in repair, is a large item in his expenditures. Experiments should be made to lessen this cost. We observe the following in a late paper:—Dip the shingles in a tub of whitewash made of lime and salt. Line with red chalk. The carpenter may get a little lime on his hands and linen pantaloons, but this difficulty is not a very formidable one. The lime will harden the wood, and prevent its wearing away by rain and weather, and will effectually exclude moss, a common hastener of decay. It is said that shingle roofs will last twice as long when treated in this way, as without it. Whitewashing each successive layer of shingles after nailing down, is sometimes adopted, but is less effectual. Whitewashing the roof when completed, is comparatively useless, as the lime or but little of it, can enter between the shingles, where the water lodges and hastens decay.

Some one may object that this operation is "troublesome," but so is nearly everything that is done in a thorough and consequently economical manner.

[For the Country Gentleman and Cultivator.]

MAKING AND PRESERVING SAUSAGES.

L. TUCKER & SON—I frequently find in the Co. GENTLEMAN, many good and useful recipes, and think I have a good one to offer to lovers of fresh sausage—would like some of your numerous readers to try it, (though it may be familiar to many.) I have the meat chopped or ground, and seasoned to my taste. I then have it all made out in suitable sized cakes, and fried until it is thoroughly cooked. During the process of frying, it is necessary to occasionally press each cake with a spoon, that all the watery particles may be removed—then place it closely in stone or earthen jars, one layer after another until the jar is filled. I then run warm lard over it sufficient to perfectly exclude the air—fasten a good thick paper over the top, and store them away to be used when wanted. When desired, the cakes may easily be removed, unbroken and perfect, by warming the jar—then put in a pan until thoroughly heated through, and they are ready for the table, as fresh and nice in mid-summer as when first made. I put up over one hundred pounds in this way last winter, and used the last the past summer, perfectly sweet and fresh. ISABELLA L. JONES. *Smithfield, O., 11 mo. 13*

☞ The Rochester Daily Advertiser has been at the pains to collect, as far as possible, the statistics of the Peach shipments from that city the past season, from the various railroads and express companies, and it gives as the aggregate amount, 98,469 baskets thus sent abroad. This, however, does not include any of those sent by steamboat to Canada or United States ports on the Lake, no account having been kept of the quantities thus sent off.

[For the Country Gentleman and Cultivator.]

CATTLE DISEASE.

Eds. Co. Gent.—There is a disease among cattle quite prevalent throughout the country, and as it commences its ravages at about this season of the year, or perhaps a little later, I wish to say a few words in relation thereto. My object is to describe the malady, and prescribe a remedy, the same being a preventive if adopted in season.

This disease is not considered contagious, though when a herd is attacked it generally goes through the whole. And yet, another herd may be in close proximity and entirely escape.

The disease is known by various names—the names indicating, in a measure, the progress it has made. The fore part of December, when it usually makes its appearance, it is called *thin-of-flesh*—as then the cattle begin to show symptoms of an attack. A month or six weeks later it assumes a different type, and is called *straw-fever*—this is immediately followed by *lousy-hide*. The disease is now progressing rapidly. A month or so later, say along in March, it is known by the name of *caving-in*. It takes this name from the fact that where the disease prevails there is a large cavity just forward of the hip joint, especially with cows that have just calved. And then, still later, or about the time of turning to grass, it takes the name of *spring-poor* or *crow-bait*—the latter name being given it for the reason that the animal is often used for that purpose.

It is pitiable to witness the sufferings of the poor animals, when under the influence of this disease. They seem to have a voracious appetite—more so than healthy animals—as is evident from the eagerness with which they enter a barn door or gate leading to a hay stack if left open for a moment, to get a morsel of the "forbidden fruit." And then, with what an imploring look they watch their owner as he enters the yard—the spectacle is truly pitiable. But I will spare your readers—I would not excite sympathy in behalf of the *brute* creation—that would show a weakness.

But I propose to give a remedy for this disease, and, as I have before intimated, if taken in season it is a sure preventive. It is as follows: Provide them with warm, comfortable stables and plenty of straw to lie upon, as the medicine when taken is most grateful in its effects, and they will most likely wish to lie down during its operation. Now, at 6 o'clock in the morning, give a dose of cornstalks, if bright and good, and if cut they are all the better. Allow this to operate until 9 o'clock, then administer a dose of good hay. At noon—as an alterative—give half a bushel of *cut* straw, wet, with one quart of Indian meal, or its equivalent in other ground feed—a few roots mixed with this is excellent, as they keep the digestive organs healthy and the bowels loose. At three o'clock give cornstalks again, and at 6 o'clock another portion of hay. In case cornstalks are not at hand, hay can be substituted for the morning stalks, and cut straw with a little meal for the evening. The above should be given daily, and with regularity as to time, until they have a good supply of grass the following spring. And let me further add that each dose (cut straw excepted, which is apt to aggrevate the disease when given in too large quantities) should be as *large* as the animal will take. Fresh pure water should be allowed twice a day at least.

Let me here say that although this disease does not always prove *fatal* to the *animal*, yet it greatly *lessens* its *value*, and thereby proves *fatal* to the *interests* of the *owner*.

When the "Cattle Disease" (pleuro pneumonia) made its appearance in the eastern States a few months ago, doctors, legislators and governors were called upon to aid in staying its ravages, and large sums of money were appropriated to indemnify the owners from loss when slaughtering was deemed necessary. How large an appropriation would it require to meet the losses sustained annually throughout the country by the disease above referred to? Would it not take a "pile?" J. L. R. *Jefferson Co., N. Y.*

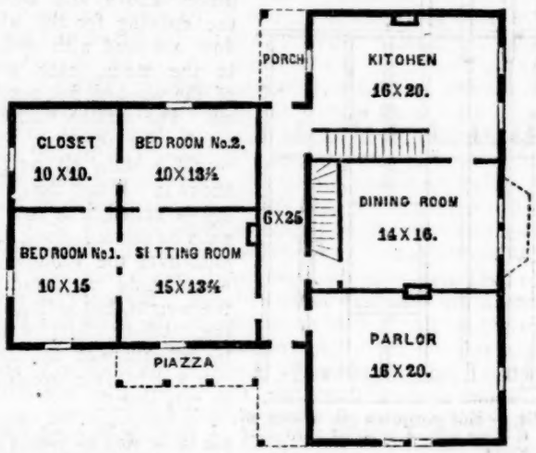
Never be idle. Always have something to do. Remember moments are the golden sands of time.

[For the Country Gentleman and Cultivator.]

PLAN FOR A HOUSE.

Messrs. Editors—I send you a plan of a building which I have in view, differing somewhat in its internal arrangements, from any I have seen. If you think it deserving, you may give it a place in the Country Gentleman. Should there be serious objections, I would like to have them stated if it appears in the Co. Gent.

The building I propose to be a *high posted* Gothic Cottage, or on that plan; giving ample sleeping rooms over the parlor, dining-room, kitchen, sitting-room, and bed-room No. 2. Bed-room No. 1 and the closet are a lean-to. The design of the two bed-rooms below, is that the youngest children may be near their parents. This is especially desirable and convenient where the children are all young, as it also would be in case of sickness.



Bed-room No. 1 is connected with the sitting-room by folding-doors, which can be opened at night and so give plenty of breathing room. Moreover, when the necessity for two bed-rooms below should cease, bed-room No. 1 and the sitting-room can be thrown into one, the former being turned into a library-room. The closet is of such size that a portion of it could be partitioned off for a bath-room. I propose a closet for china, opening from under the hall-stairs into the dining-room. A door can be put between the parlor and dining-room if desired. Also, a door can open from the kitchen into the wood-shed, which I would have adjoining it on the rear. The pantry, which I have given no place in the plan, I would have in the rear of the kitchen, at *a*. The hall can be divided into two, as I have indicated by a dotted line. The hall-stairs—the lower steps of which I would have of unequal widths, being widest near the dining-room door—make a turn passing into the upper story over the hall at *b*. The entrance to the cellar I have made from the kitchen—it can be from the back-hall if desirable.

This plan seems to me a good one. I do not know how it may appear to others, nor to me after seeing it criticised. C. J. C. *Michigan.*

This is a very good plan. The defects are slight, and consist chiefly in too small or rather too short a dining-room, to correspond with other accommodations. It might be amplified a little, by making a large bay at the end, as we have indicated by the dotted lines. This would add both to the internal appearance, and improve the exterior, the long face on that side appearing rather blank without a little interruption of this sort. There were too many windows in the sketch sent us; we have reduced them without at all altering the plan in other respects. Eds.

Exports of Butter and Cheese.—From Sept. 1, 1858, to Sept. 1, 1859, there were exported from this country to Great Britain and Ireland, 307 tons of butter, and 2,599 tons of cheese—while from Sept. 1, 1859, to Sept. 1, 1860, the amount was increased to 2,141 tons of butter, and 7,542 tons of cheese.

[For the Cultivator and Country Gentleman.]

"BALLOON FRAMES"—9th Article.

The following questions proposed by "AMATEUR," we take much pleasure in answering:

1. In article No. 2, (Co. GENT., vol. 14, p. 387,) it is shown how to arrange the frame for a window. Is the portion of stud remaining above the window, supported by the strip on which rest the joists, or in part by the lintel of window?

2. Is the lintel notched into the studs at its ends, or is it only spiked?

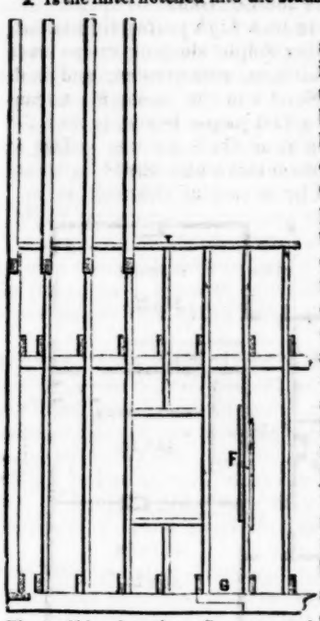


Fig. 1—Side elevation—G. manner of splicing sills—F. manner of splicing studs.

The portion of stud above the window, is held in place by the nail thro' the plate, by the side-girth, by the floor joist, and by being toed to the lintel or cross-piece above the window-opening. The cross-pieces above and below the opening for the window, are toed with spikes to the studs, each side of the window, not notched. The window frame is set in the opening, and would sustain all weight above it. When the flooring is nailed, if a row of nails be carried along the joist over the window, it would hold up some of the weight, but siding-lining, lathing, &c., would be all-sufficient to carry any weight over openings of this width.

3. In article No. 3, (Co. Gent., vol. 15, p. 226,) the collars are represented as "notched in" on the rafters. Is this notching necessary when the collars have no weight of lining or of plastering to support, as in those out-buildings which have such span of rafters as to require collars?

In story and a half buildings, it is very desirable that collars be put on securely, so as to prevent any thrust of the rafters; where the side-girth is not gained in, as in small unplastered buildings, the collars may be nailed or spiked to the rafter. If the side-girt is set into the studding, as it should be in a plastered building not lined inside, it makes a weak point in the studding, reducing them from 2 by 4 to 2 by 3, and the collars should be put on in such a manner as to guard against any thrust whatever. The size of the building, and the judgment of its constructor, will indicate the best course to pursue. Buildings of one, two, or more full stories, have no collars; the ceiling joists of upper story tie the upper part of the building, and take the thrust of the rafters.

4 In putting on lining, would it not be best for alternate courses of four or five boards each, instead of finishing together at their ends, to entirely cross at their intersections, and for one course to extend flush with the outer face of corner stud, and the next course crossing this, to extend flush with outer edge of the adjacent side?

Yes, that would be the best way. A strip should be nailed on the lining which laps the corner stud, to which nail the ends of that which butts against it. We furnish the drawings, isometrical, illustrating your idea, and thank you for it.

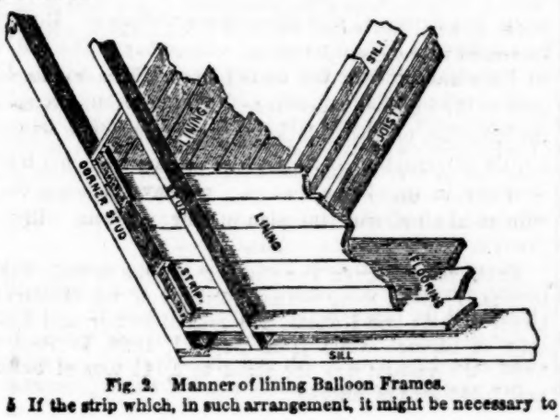


Fig. 2. Manner of lining Balloon Frames.

5 If the strip which, in such arrangement, it might be necessary to introduce, on which to nail the ends of those intermediate courses which do not extend flush with the outer edge of stud, is objectionable, how then are the ends of such boards supported as do not in any other mode of lining nail directly to the stud?

In the usual mode of inside lining, one side laps the stud. The ends of the lining of the adjoining side are nailed to a strip fastened to the stud to receive them. There is no objection whatever to this strip.

6. If ends of joists and sleepers (and lining?) are made flush with outer edge of studding, will the difference between the transverse shrinkage of the studs and the longitudinal shrinkage of joists and sleepers, be sufficient to effect any pushing off of the outside boarding?

We have built Balloon Frames with green oak studding, basswood siding, and butternut trimmings, that have never yielded. There is a system of compensation among the light sticks of a Balloon Frame, by which the seasoning process goes on without injury to it. We have seen warped surfaces produced by using green oak siding, and by careless building, but there is no good reason why a balloon frame building should not be always square and plumb, and the outside boarding remain secure.

7. Instead of fitting the rafters against each other at the top, is it not stronger, truer-fitting, and more easily done to use a "comb-strip," which saves labor, as by setting the rafters at the ends of the strip, the intermediate ones by using the strip as a support and its top as a guide, can be more easily and truly placed, and which is stronger, since it gives more nail-hold and prevents swaying whilst the sheathing is not yet put on?

It is better at all times to use a comb-strip or ridge-board, or pole, in setting the rafters; to use it or not is a matter the builder can easily decide. The roof of a balloon frame does not differ from that of the old fogy frame, and the various modes of constructing that, are equally applicable to the balloon.

8. For a large building, say one having rafters 24 feet long, is it best or not, to "taper" the rafters—thus instead of using a rafter five inches wide at bottom and five inches at top, let it be six inches at bottom and four inches at top? This will give no waste of timber nor extra labor—as to have them five inches wide, it is necessary to saw down the middle of a board ten inches wide, and to have them tapered from six inches to four inches, it is only needed to divide the same board diagonally.

9. If best to "taper" the rafter, what is the proper dimension of a rafter 24 feet long, for a pitch of about two-thirds the span, and 16 inches between centres?

The subject of tapering rafters has been pretty thoroughly discussed heretofore. The same amount of strength can be had with a less amount of lumber. There is an additional labor in sawing such rafters, as well as a different calculation to be made in using up a log to the best advantage. It is necessary always to order this special bill of rafters direct from the mill, and the result will be that the extra cost will, nine times out of ten, overbalance the amount saved.

10. Lastly, will Mr. WOODWARD, in his usual practical style, give drawings and measurements for a Balloon Frame, as applicable to vertical boarding and for large buildings?

Yes, sir, Mr. WOODWARD will cheerfully prepare drawings, illustrating the manner of arranging the details of the balloon frame. We propose to complete thoroughly this subject as fast as our time will permit.

GEO. E. WOODWARD,
Architect and Civil Engineer, 29 Broadway, N. Y.

[For the Country Gentleman and Cultivator.]

Fattening Hogs on Dry Corn.

MESSRS. TUCKER & SON—One of my neighbors—a farmer all his life, and over 70 years of age—fattens his hogs in a dry pen *without water or slop*—giving them *nothing but corn*, and I have noted the fact for five years that I have lived here, that he has made I think the best—I know the fattest pork in this county. The hogs while fatting, particularly in dry warm weather, eat and lie down, walking about but little. Had I known the above 20 years ago, it would have saved me a great deal. W. HALL.

Trimble Co., Ky., Oct. 25, 1860.

THE COUNTRY GENTLEMAN.—The following is an extract of a letter from Scott Co., Missouri:—"Although I have been a subscriber to your excellent and valuable COUNTRY GENTLEMAN but one year, I have received more benefit than would pay for it for ten years to come, and I hope to be able to add a little information to your columns shortly, in regard to raising corn, as the prospect now is very flattering, at least to me."

[For the Country Gentleman and Cultivator.]

FARMING ON LONG-ISLAND.

Potatoes, Onions and Asparagus.

MESSRS. EDITORS—I have often been gratified and instructed, in reading the letters of our venerable friend JOHN JOHNSTON, published in the COUNTRY GENTLEMAN. No person values his opinion higher than I do, but I think that he may be sometimes mistaken.

In the Country Gentleman of Nov. 15, is an account of his visit to Long-Island. In describing what he saw there, he says:—"Some of the farmers buy stable manure from the city stables, but along the coast, where it is brought in sloops, it costs them from sixty-three to seventy cents for fourteen bushels of fire-fanged, light horse stable manure, measured in New-York. I never heard of horse dung and straw sold by the bushel before. Any man may see that no common farming can pay that price for manure. It may do for gardeners to pay that price, but for common farming never."

I have heard of the remark of one of our old Long-Island farmers, who had been in the habit for many years of buying large quantities of New-York stable manure, and had got rich in the mean time—"that he never could see how the farmers could make it profitable to buy manure at the price they were paying, but one thing he had always noticed, that those farmers that bought the most manure always had the most money."

To show that we can make it profitable to buy stable manure by the bushel, I will state the result of three crops, that were raised this season by my two nearest neighbors and myself, which crops took the first premiums at the winter meeting of the Queens County Ag. Society, held yesterday.

The first was a crop of Asparagus, raised upon six acres of land by Peter Cock.* A portion of it being young was not cut for a very long time. It was sold, deliverable at the dock in New-York, for 21 cents per bunch for the season, which lasted about seven weeks.

The amount of the sale was,	$1,922.00
Expenses for manure and labor,	574.00
Nett profit,	$1,348.00

The second was a crop of red Onions raised by Daniel K. Youngs, President elect of our County Society, of about four acres, one acre of which was surveyed and measured. The quanty of onions raised on this acre was 350¼ barrels. They were contracted to be delivered at the dock in New-York, at one dollar and fifty cents per barrel.

Value of crop on an acre,	$525.37
Expenses, including manure, labor and freight,	185.42
Nett gain,	$339.95

These crops that I have mentioned, may justly be considered by Mr. Johnston as not "common farming," but gardening. My own crop is not of that class, and should be considered as "common farming." Potatoes preceded by corn, and to be succeeded by wheat and grass.

I planted about five acres of land with Mercer potatoes, commencing the last week in March and ending on the 5th day of April. Commenced harvesting the crop August 6th.

The field, the previous year, was planted with corn—coarse barn-yard manure spread upon the sod, and 300 lbs. Peruvian guano to the acre, in the hill. The land a sandy loam. It was furrowed for potatoes two feet and four inches wide, (half the width of a wagon.) The greater portion of the seed was cut from large potatoes, rejecting the small end covered with eyes—a portion of it from potatoes of medium size, cut in the same manner; the balance with whole potatoes of medium size.

Three plots were set off, and the potatoes carefully measured.

Plot No. 1, containing one acre, was manured with new New-York stable manure, 100 carmen loads, (called 14, measured 10 bush.,) and Peruvian guano 350 lbs. The manure was spread in the bottom of the furrow—the guano strewed upon the manure—the potatoes dropped upon the guano, and covered with a plow. Yield, 250 bushels.

Plot No. 2, containing one acre, was manured with old New-York stable manure, 150 carmen loads, and guano 350 lbs. Yield, 308 bushels.

Plot No. 3 was surveyed and measured by chain and compass. It contained 117¾ rods. The ground low and damp adjoining a piece of wet land drained by open ditches. manured in the same manner as No. 1. Yield, 264 bush., or at the rate per acre of 358¼ bushels.

Four rows adjoining No. 3, manured the same, with the exception of the guano, yielded but five-sevenths as large a quantity as the rows in which guano was put.

The crop from the rows in which there was guano, exceeded in value that in which there was none:

At the rate per acre of,	$54.00
Cost per acre for guano,	10.00
Nett gain by the addition of guano,	$44.00

With the exception of a few rows on the lower side of the damp ground, in which the potatoes were nearly all rotten, there was not a bushel of rotten ones on the whole piece.

There was no difference whatever in the quantity or size of the potatoes raised from the seed cut from large and medium sized potatoes; from medium sized potatoes, whole, the quantity of large potatoes was but about three-fourths as great as from the cut seed, and twice the quantity of small ones. This was caused by the end of the potato containing the cluster of eyes being retained on the whole potatoes, which end produces most of the small potatoes.

Nearly the whole of the marketable potatoes were sent directly from the field to New-York, and were sold for $2 per barrel.

Nett value of crop on Plot No. 3,		$135.47
EXPENSES.		
74 carmen loads stable manure at 57 cents,	$42.18	
250 lbs. Peruvian guano at $58 per ton,	7.25	
Labor, estimating men and horses each at 75c. per day,	16.60	
Seed,	4.20	
Total expense,		70.23
Balance,		$65.24
One half of the cost of the manure chargeable to the succeeding wheat crop,		24.71
Nett Profit,		$89.95
Nett profit at the rate per acre of,		122.23

Some persons that are not aware of the necessity of high manuring to obtain a good crop upon Long Island land, may think that the charge of about thirty-three dollars an acre to the succeeding wheat crop is an exhorbitant charge. I will state for the information of such that upon the field adjoining, from which I had taken a crop of oats, and which was sowed with wheat in September last, I spread on over $40 worth of stable manure to the acre to make it equal to the potato ground.

This would not be considered an unusual crop in some sections of this State, even with slight manuring, but it is quite double the usual crop raised upon Long Island lands, which, as Mr. Johnston says, have been settled over 200 years. This farm has remained in the family, and has been under cultivation since 1667.

I find by experiment that as many potatoes can be obtained from each row furrowed out 2 feet and 4 inches wide as from the usual width of 3 feet, which adds two-sevenths to the crop per acre.

"OBSERVER" will find all of his questions answered by referring to plot No. 2, on which there was but one rotten potato found, and that one was bruised during cultivation. I fully agree with his "Scotch friend," that it is hardly possible to over manure land suitable for the potato crop.

I believe that no kind or quantity of manure will cause the potato rot, and am *certain* that no kind will prevent it.

Soon after the disease first made its appearance in this State, I commenced experimenting to find a preventive, leaving it for others better qualified to seek the cause. I tried the different kinds of animal manure, guano, lime, leached ashes, potash, salt and plaster, each upon separate rows, and in the same season, none of which prevented it.

My next experiment was planting at three different times in one season; the first planting about the 1st of April, with about three weeks intervening between each of the times of planting. The result was that those raised from the first planting were all sound; from the second a small portion diseased, and from the last a large portion of them were rotten—since which time I have generally planted as early as possible, and when planting the Mercer, or other early ripening sorts, with strong manure, and have dug them as soon as ripe, I have had do difficulty with the rot.

If I failed to plant early, or manured with a poor quality of manure, that did not force the potato to a rapid growth, the disease would again make its appearance.

Peachblows, being a late ripening variety, will rot here, even if planted very early.

The true preventive, according to my experience, is to plant early with early ripening sorts and manure highly.

Matinecock, Oyster Bay, L. I., Nov. 27. GEO. R. UNDERHILL.

[For the Country Gentleman and Cultivator.]

Experiments in Corn and Potato Culture.

EDS. CO. GENT.—I embrace the present opportunity to redeem my pledge, to furnish you some account of my farming operations on a small scale.

I planted about two acres of corn and potatoes. One acre of this had been under cultivation five years previous, mostly to corn. Heretofore my habit has been to manure in the hill, but last spring, by way of experiment, I spread the manure which had accumulated during the winter from a horse and cow, evenly over the surface—after plowing in the spring—of about one-half of my acre lot. This was afterward harrowed, then marked with a light plow and planted, one-half—or one-quarter of an acre—with corn, the other quarter with potatoes. The remaining half acre I furrowed and a part of it manured in the hill, with a similar manure to that which was spread on the surface of the first half of my lot. The remainder I planted without any manure; but when hoeing the first time I applied hen-dung mixed with ashes, and well pulverized by repeated rubbing on a barn floor with a hoe, after the manner of mixing mortar. Of this mixture, of about two parts of ashes to one of dung, I used to each hill a small handful, or what I could take from the measure with my thumb and three fingers.

Now, as to the results. I could see no difference in the yield of corn from the three different quarter acre pieces. That manured in the hill made the greatest growth of stalks of either of the three, and that on which I used hen-dung and ashes the smallest of the three; but the product of corn was so near alike that I was not able to say which was the best. From the whole, I harvested about 76 bushel baskets of corn, besides what was picked for family use when green.

My potato ground, as I have said, was surface manured, dragged and furrowed. After dropping my seed—the western reds—I covered lightly with a plow. The yield was at the rate of about 300 bushels to the acre, and would have been more if disease and rot had not affected them. In fine I never had as good a growth, early in the season, as this year, but much wet and early rust put an abrupt termination to their growth, and made my crop short of what it would otherwise have been. Perhaps I should state my mode of culture after planting. I run a cultivator both ways between the rows when the tops were about six inches high, and later in the season plowed deep between the rows one way, turning the furrows towards the hills. In addition I used the hoe sufficient to work the dirt among the hills and subdue the weeds.

I also used the plow, the second time hoeing, among that part of my corn which was surface manured, and the former part of July set on part of this ground Swedish turnips between the hills of corn. As the result I have 10 bushels of these roots, which I propose for feed for my cow. On the whole then, I am satisfied with my experiment of surface manuring for corn and potatoes, and although I have had no reason to complain of the results of hill manuring either this year or years before, yet I think the surface manuring has this advantage: Where at the last hoeing the plow is used and the furrows turned towards the corn, it leaves a good ridge manured to a greater or less extent for a turnip crop. S. W. RAYMOND. *Clinton, N. Y.*

P. S.—I forgot to say the other part of the two acres was greensward, plowed and planted after the 20th of May, as the spring drouth did not allow of earlier plowing. This was planted without manure. The growth of stalks was large and the yield of corn good; though there was a larger proportion of soft corn than I usually get, owing to the shortness of the season.

[For the Country Gentleman and Cultivator.]

SUN-DRIED BRICK FOR BUILDINGS.

In reply to the inquiry of D. H. J. in the Co. GENT., page 256, I would say that he will find practical information relating to building with sun-dried brick in the U. S. Patent Office Ag. Report for 1843 and 1844, (Doc. No. 177,) pages 6 and 239, also in the 1846 edition of Loudon's Cottage, Farm and Villa Architecture, pages 77, 416 and 417. I constructed a small building in this way by taking loam from new land, which had been thrown out in excavating for the cellar of a house. This was wet and mixed with hay which had been cut with a hay cutter, worked up with a hoe as masons usually work up mortar, and placed in wooden moulds like the four sides of a box—stiff enough to keep its form when the mud was pressed into it, and smooth inside, and a little beveled so as to lift easy. The bricks should be made where the moisture will evaporate; and in a few hours, on a good drying day, they will become hard enough to be turned up, so that the bottom can dry, and in a few hours more will be so dry and hard that they can be handled and placed under cover. If care is taken to have them bound well, I do not think it necessary to use mortar in laying them up for a small building, if plastered with cement outside and in.

I made a cement recommended by Mr. Ellsworth in the Patent Office Report, but not having enough I finished with common hydraulic cement and washed it as recommended. The cement adheres better if the surface of the walls are wet as you apply it.

My building was only about 12 feet square and the side walls about 6 feet high. It was built about ten years since, and the external walls appear as well as when first made; inside, the cement is broken off in two or three places, and the earthern walls been eaten into for an inch or two by calves, who were probably attracted by the smell of the hay with which they were tempered. The roof is thatched with straw, and it is dry and warm in winter and cool in summer. H. B. O.

Whitinsville, Worcester Co., Mass., Nov. 9, 1860.

[For the Country Gentleman and Cultivator].

BEE CLAMPS.

In reply to the inquiries of V. A. and J. W.—"What is a bee-clamp, and how to make one?" I would refer them to "Langstroth on the Honey-Bee." Commencing on page 348, last edition, they will find ten pages on this subject, giving plans for constructing and the results of several experiments. My friend, Mr. B., obtained his information from this book. He has modified, simplified, cheapened, and improved the construction, and I hope he will soon publish a full account of his experience, and how he made his clamp.

To be brief, a bee-clamp is an enclosure formed principally of earth, entirely above ground, and provided with ventilation. The boards, straw, earth, and ice or snow covering, being of such a thickness as to prevent the temperature within from going below the freezing point, or from rising much above it. Like an Esquimaux hut, not affected by external changes, and so shaped and provided with drainage and ventilation as to be free from moisture. I intend, if possible, to be present when my friend builds his clamp, and then I shall know more about the matter in detail, and will communicate.

The dry air and equable temperature of the chamber of a Schooley's Preservatory would, I think, answer well for winter quarters for bees. I hope some one owning one of these structures will try the experiment, not forgetting the necessity for perfect darkness, and to therefore keep the window-shutters closed. E. P.

HOW TO TAKE UP FRUIT TREES.

Every one must be aware, at least with a moment's reflection, that if a tree could be removed with all its roots, including all the numerous thread-like radicles, and placed in the soil precisely as it stood before, it would suffer no check in growth. The nearer we approach this condition, therefore, the greater will be our success.

We have lately had occasion to observe trees from a number of different nurseries, and to witness the manner in which the operators in each have endeavored to carry out this requisite of success. On the whole, the result was not very gratifying. The side roots were often badly cut with the spade, and the trees resembled that shown in fig. 1. Many who buy trees will observe in this a pretty accurate delineation of most of the trees they receive. There are many others that are still worse, like fig. 2. A very few are taken up with great care, and resemble the one exhibited by fig. 3.

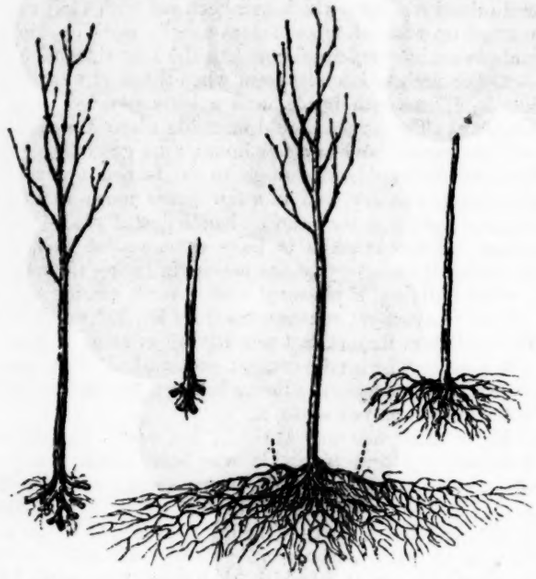


Fig. 1. Fig. 2. Fig. 4. Fig. 3.

Many people "wonder" why trees are so much checked by transplanting—they are sure that *nearly all* the roots have been removed with them, even when cut like fig. 1. If they should very carefully examine the roots, they would arrive at a different conclusion. By washing the soil away from the trees, the roots are found to have run long distances. The old theory that the roots extend over an equal area with the branches is far from correct; and the later one that the diameter of the circle of roots is only equal to the height of the tree, is still short of the truth. Careful examination shows that they generally extend as far *each side* as the full height of the tree. For example, the extreme fibres of a tree four feet high, (provided it has had plenty of room to develope itself, and is of stocky growth,) will be found about eight feet apart; quite as far as represented by fig. 4. The minuteness or threadlike-form of these fibres prevents their being usually perceived. Cutting out with the spade, that very small portion included within the dotted line of fig. 4, which is about the usual amount retained by the tree, as the operation is commonly performed, leaves but little for the support of the tree, and it is no wonder that it barely survives, or makes but little growth.

To secure a good supply of fibers, small or moderate sized trees must first be chosen, for it is impracticable to take up any considerable portion on large trees. Hence small ones generally outgrow large ones in a few years, and make much finer and more thrifty bearers. Secondly, good tools must be procured for the operation; with a small, short, feeble spade, it is nearly impossible. There is a spade made especially for this purpose, by D. R. Barton of Rochester, the blade of which is about 16 inches long, and two such instruments thrust far apart under a tree, will lift out a large circle of roots. It is made of the best steel, admirably tempered, and highly finished, with a stout handle, and will support the weight of a heavy Irishman. (Cost, $5.) Thirdly, every workman taking up a tree, should first hear a lecture, accompanied with practical illustrations, *and adapted to his capacity*, on the importance of saving plenty of roots. Sometimes it is necessary to repeat this lecture, in short sentences.

"Some cultivators," says the Am. Fruit Culturist, "have adopted the opinion that the small fibers are unimportant, and may be cut off without lessening the chances of growing. But this can only be true with very small trees or seedlings, which quickly reproduce a multitude of small roots, after the top is removed for the insertion of a graft; or where the fibers of larger trees have been killed by exposure after removal, and which are followed by a necessary lopping of the branches."

As it is impossible to secure all the roots, there must be a corresponding shortening back of the top shoots, as described and shown in the article on this subject on p. 14, of vol. XVI of the Country Gentleman.

DWARF APPLES.

Five years hence, the dwarf apple will be more popular than at present. This mode of culture possesses one great advantage over the dwarf pear, namely,—all the different varieties of apples succeed well propagated as dwarfs, while with the pear, but few continue to grow and flourish. We placed at the same time in adjacent rows, over a hundred varieties of each, selecting so far as was practicable those pears that grow best on the quince, but of course taking many in so large a number that were quite unsuitable,—a prominent object being experiment. They have both now grown four summers since transplanting, with the following result:—

As was expected, the pears have become much thinned in the row, a part by unsuitableness, and a part by blight, while many are stunted and feeble. A considerable portion, embracing such sorts as the Buffum, Hardy, Superfine, Winkfield, Angouleme, &c., are in a vigorous state of growth and bear abundantly. This uneven result might have been guarded against by the selection of such sorts only as are here named,—liable, however, at all times to the blight.

On the other hand nearly every apple tree forms a fine, thrifty, bearing tree, and the rows present a beautiful and uniform appearance. A part are on Paradise, and a part on Doucin stock. The former are about five feet high, and most of them, this fourth year, have borne from a peck to a half bushel of fine fruit, and some a bushel. The trees worked on the Doucin, are six to seven feet high, and only a part have borne much,—being larger and more rapid in growth and less fruitful while young, but doubtless more productive afterwards because larger. The soil is a very fertile and strong loam, and has been well cultivated. On a poor or thin soil we should not look for equal success. We recommend, unhesitatingly, to all those who wish to grow apples in gardens, to plant and cultivate dwarfs. Where trees eight or ten feet high are

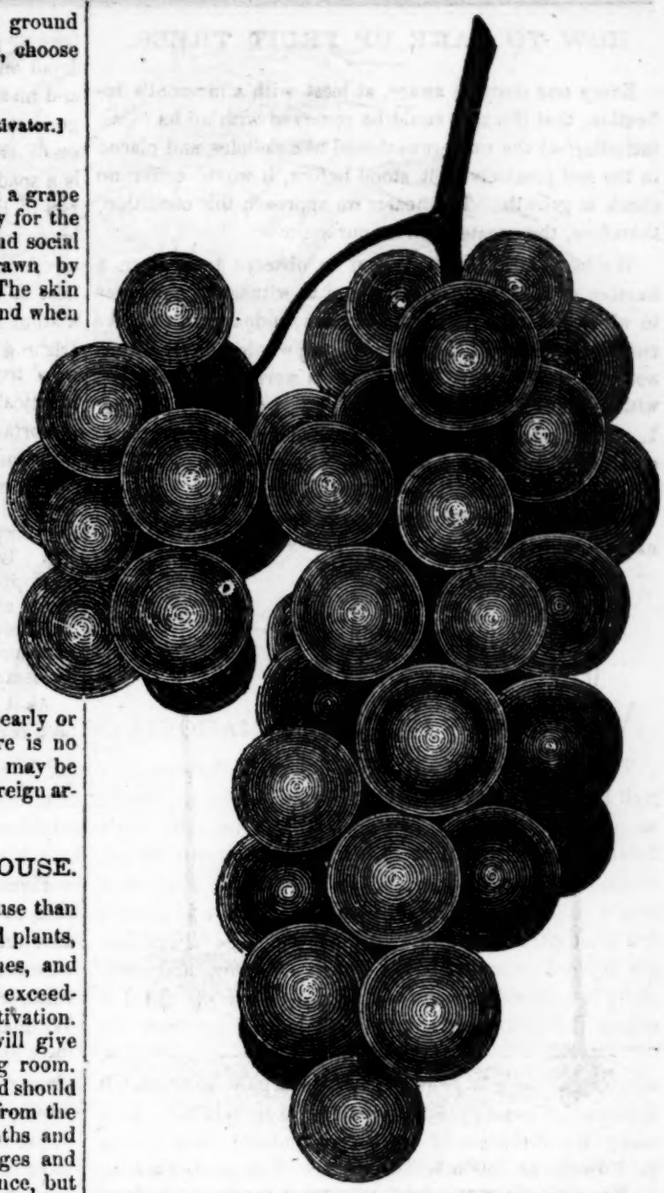
desired, select the Doucin as a stock; where the ground is more limited, and smaller trees are preferred, choose the Paradise.

[For the Country Gentleman and Cultivator.]

THE OPORTO GRAPE.

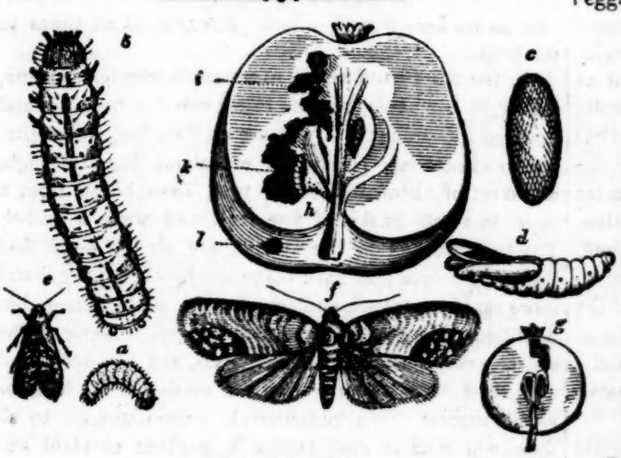
A few years since my attention was directed to a grape cultivated by farmers and amateurs in this vicinity for the manufacture of wine for medicinal, sacramental and social purposes. The cut is a good representation drawn by actual measurement from a cluster this season. The skin is black, covered with bloom. The juice is thick, and when fully ripe dark red, staining the hands a purple color, and imparting to wine made from it without water, the dark color usual to port wine.

There is an opinion that the original vine was given to Miss or Mrs. Dunlap, by a ship captain, and that he brought it direct from the city of Oporto, which would make it a forigen grape; but the growth of the wood, the shape and texture of the leaves, its perfect hardiness, with the vines never laid down, in latitude 43° N., leads me to the conclusion that it is an American seedling, though it may be a child of foreign parents. Having asked the opinion of N. Longworth, Esq., on the subject, he writes—"If the Oporto is perfectly hardy, I cannot think it a foreign grape." The wine made from it has the flavor and bouquet of Port, and is pronounced by good judges nearly or quite equal to the best imported Port, and there is no doubt in my own mind, that from this grape may be manufactured a wine which would supercede the foreign article. E. WARE SYLVESTER.



FRAGRANT PLANTS FOR THE HOUSE.

No plants are more easily cultivated in the house than Heliotropes, Mignonette, and other sweet scented plants, and none are more desirable. Oranges, Jasmines, and Pittosporums, are not only beautiful in foliage, but exceedingly fragrant. All these plants are very easy of cultivation. A dozen pots of Heliotropes and Mignonette will give bloom enough to spare for bouquets in the sitting room. Heliotropes when taken from the ground or repotted should be well cut back. Mignonette should be raised from the seed. In addition to these, a few pots of Hyacinths and Jonquilles should be grown for fragrance. Oranges and Pittosporums are generally too large for convenience, but where room is abundant they should by all means be grown. They will require to be planted in cedar tubs, with handles, for convenience in moving from place to place. When in bloom they may be placed in the hall or parlor, and if the tubs are neatly painted, and the leaves of the plants washed with a sponge, are really very handsome ornaments of a room. In summer they may be placed anywhere on the lawn, or sunk in holes made in the ground. G. B. H.



THE APPLE WORM.

THE APPLE-WORM.

MESSRS. L. TUCKER & SON—I wish to inquire of you through the Co. GENT., of a new enemy to the apple in this part of country—a small worm from one-half to three-fourths of an inch long, with a black or red head, to be found in the heart of nearly all the apples this fall. The eggs seem to have been deposited in the blossom, and when the apple grew, they must have hatched out in the centre, and eat the core and often the seeds entire. When matured they eat out, causing the apples to rot at first at the core, the outside appearing sound and firm, no sign of an enemy being present; but when cut open we find the heart decayed, with the small worm above described. I have lost between $500 and $1,000 this season by this small worm.

Can you give us a remedy? As they eat out and fall on the ground for the next season, will fall plowing destroy the insect in the winter by exposing them to freezing of winter, or cultivation in summer? As for cultivation, I don't think that of any use, for a portion of my orchard this season was in potatoes, and I could perceive no difference. The balance of the orchard was in rye, and was plowed under in part to seed it again, but when I found the fruit affected so badly I discontinued the operation.

Bullett Co., Ky. F. POUND.

This insect is evidently the well known *Apple-worm*, so

A NEW SPECIES OF MAHONIA OR ASHBERRY---Mahonia intermedia.

The *Mahonia aquifolia*, or Holly-leaved Berberry, is a well known valuable evergreen shrub, not by any means so extensively planted as it deserves to be. Its dense habit of growth, peculiar glossy, purplish green foliage, which it retains all winter, and its large showy clusters of bright golden flowers in the early spring, unite in making it a most attractive feature on the lawn. The foliage does get injured somewhat in the winter, it is true, and especially in exposed places, but this injury is very slight if it enjoys the protection of trees or other objects from the sun in winter. To be effective, it must, like the Rhododendrons and Kalmias, be planted in groups or masses of considerable breadth. This new species, *intermedia*, a branch of which is represented by the above wood cut, is represented in the foreign journals to be vigorous and hardy, enduring the most intense cold without injury, to have yellow flowers and violet fruit like the *aquifolia*, and to be remarkably beautiful in habit and foliage. All the Mahonias may be propagated either by seeds, layers, suckers, or cuttings of the young ripe wood.

troublesome in a large portion of the Union, and which it appears has recently found its way to Bullett Co., Kentucky, the residence of our correspondent. It is known in Europe as the *Codling moth*. The accompanying figures exhibit the insect in its different stages. The larva of the natural size is shown at *a*; the same greatly magnified at *b*—the cocoon *c*—crysalis *d*—the perfect or winged insect *e*, the same somewhat magnified and with the wings spread *f*—the worm in the young apple *g*, and the same more advanced at *i*, *k*, *l*.

The perfect insect or miller lays its eggs in the young fruit early in summer, and the young grub soon hatches; at first it is nearly white, with a black head, and with four rows of small black dots along its back. The head afterwards turns brown, and the body to a flesh color. The young fruit usually falls in a few weeks; but whether it falls or not, the insect leaves it, spins a cocoon, and becomes a pupa. It often selects the seams or crevices of the rough bark for this purpose. If early in the season it soon comes out, and this second crop of moths or winged insects again deposit eggs in the blossom end of the older apples, too late indeed to prevent their full growth, but spoiling them in a great measure for use and market. Straggling individuals appear during the whole of the season.

The best remedies are the following:—Turning in swine in large numbers, to destroy the fruit as soon as it falls, and with it the grub. Scraping, and washing the bark with soap suds, and destroying the cocoons. As the perfect insects are active in evening, it is not improbable that many might be destroyed by placing lamps in vessels containing sweetened water in the tree, into which they are attracted, plunged and caught.

WESTERN APPLES.

The following notice has been kindly furnished by our correspondent A. G. Hanford of Waukesha, Wis., one of the most intelligent pomologists of the West:—

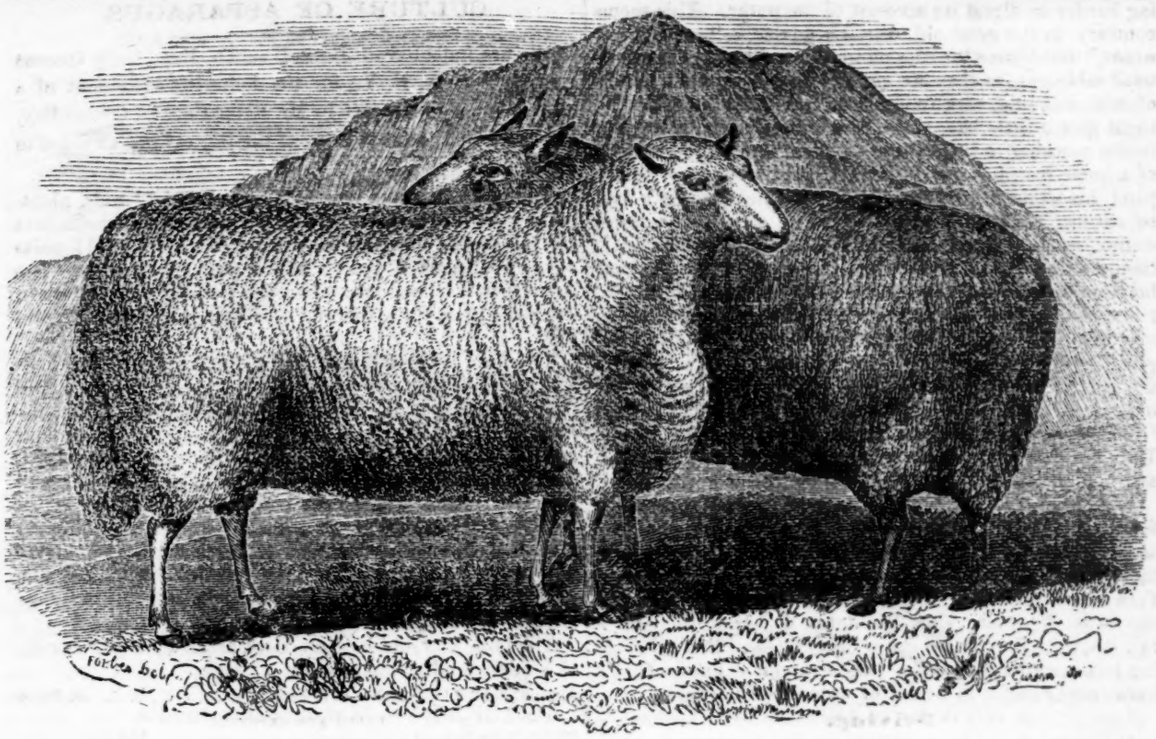
Among the varieties of apples here which seem particularly suited to our climate, are many of either uncertain or Western origin. Among them are a number which are strangers to Eastern cultivators. I propose to send you brief descriptions of some of these, commencing with the

Perry Russet.

Evidently an old Eastern sort, as it is not unfrequently met with in our oldest orchards under various names. Usually as "Golden Russet"—quite distinct from English Golden, or Golden Russet of New-York.

Mr. Phœnix of Bloomington, Ill., found it, if I remember correctly, growing in Perry, Wyoming Co., N. Y., without name. Mr. P. cultivated it in his nursery at Delevan, Wis., and diseminated it quite largely as Perry Russet, by which name it is now generally known.

Tree a good grower; shoots rather slender; upright while young—becomes spreading with age, making a large orchard tree. Very hardy and productive, though not an early bearer; blooms late, and often escapes spring frost, when other varieties are cut off. Succeeds well in Wisconsin and Illinois. Does well grafted upon the root. Fruit medium to large—roundish ovate. Skin yellow, covered with thin russet; flesh yellowish, fine grained, tender, juicy, mild subacid, in use all winter, and keeps until April or May.



CHEVIOT SHEEP.

CHEVIOT SHEEP.

Above we give the portraits of a couple of rams which received prizes at the Highland and Agricultural Society's Exhibition of Scotland; and we copy the following article in relation to this breed of sheep from *The Homestead*, and shall be pleased to hear from those who have kept them in this state:

We have never known of an importation of full-blood Cheviots into this State till within a few days past. Mr. Nathan Gillet of Hebron, Tolland County, has just made the purchase of some very fine animals in Delaware county, N. Y. He gave us an opportunity to examine the buck as he came through the city. He is as noble a sheep as one is likely to meet with of any mutton breed, and has been winner of two first prizes at the Delaware County Fair. He is three years old and weighs two hundred and twenty pounds; his fleece close and remarkably uniform in length; in form he approximated to the long wools so closely that but for the fleece, at first sight we should have taken him for one.

This breed has greatly improved of late years and throughout some large sheep raising districts of New-York they have been extensively crossed upon the "native" breeds with excellent success. They are hardy, bearing exposure to wet better than the long-wool breeds, on account of the closeness of the wool upon the back and the hardiness of their constitutions.

This breed is native to the Cheviot Hills in Northumberland, and south of Scotland, and while for many years the breed has been within the limits of the district, quite pure, upon the border they have mixed with the Black-faced Highland sheep on the one hand, and besides have been more or less crossed with the Leicesters or long wools on the other. They are hornless, the heads bare; faces white, though grayish or dun spots do not indicate essential impurity; the carcass is well formed, long, and the objection which the books urge, that the chest is neither deep nor broad enough, seems to have been to a great degree done away by careful breeding; certainly the buck above mentioned had as good a chest as we desire to see. Their underpinning is firm and clean, wooled down to the hock.

[For the Cultivator and Country Gentleman.]

CARE OF THE HORSE---II.

Grooming.

It is better to clean the horse before than after breakfast. Groom in the open air if possible, as it is better for you and the horse not to inhale the dirt arising from his coat, which you do more or less if not carried away by the wind. With the brush clean the head, rubbing against, across, and with the hair. With a cloth clean the ears, and polish the hair. Sponge out the eyes and nostrils, and mouth, with a wet sponge. With the curry-comb cury the neck, body and quarters. Do not rub against, as it breaks the hair, but a circular motion. After getting the dirt out with the curry-comb from those parts, clean the inside of the elbows and flanks, and legs, with the brush, the curry-comb being too hard, and also polish the hair of the body. If the weather is warm, wash the legs and feet, but if not, only the feet. Comb out the mane and tail. While you have been doing this, your blankets ought to be airing. Clean out your stables. Do not throw your bedding under the manger, as the fumes of the hartshorn arising, makes the eyes watery, and also are inhaled; if he gets it under his feet, as he will be sure to do, it makes the feet feverish. In making the bed at night, let the sides be higher than the centre, to protect the back from the sides of the stall. Have the clothing warm, and let it cover the chest well. Perhaps some will object to clothing as not being natural; if we make a part of his life artificial, we must make the whole of it so. Is it natural to ride, to drive, to shoe, to feed him on grain? How long would a horse in his natural state live in the city? If by a certain mode of treatment, we can develop him and make him better fitted for our work, is that not the best way? God does what is best for him while in his natural state, and has placed within our power means to make him valuable to us.

Feeding.

The food of the horse generally consits of oats, with a change to cut feed. Cut feed is merely hay cut into pieces of two or three inches in length; this wet with water, and then rye or wheat bran, or corn meal, or a mixture of all, mixed with the hay. This is given at night, because be-

ing harder to digest on account of the water. This seems contrary to the good old doctor's advice,—"*eat light at night*," but horses breathe purer air, and hardly ever sleep until midnight, as they are enabled to get a great quantity of rest standing, much more than any other animal. At night give a little hay, and if you do not intend using him in the morning, a little then. I think one of the reasons of a horse learning to crib is, that, not allowing hay to expand his stomach to a reasonable size, he chooses a bad substitute, wind, although it is said by some that a horse cannot swallow wind, except with the saliva, which little then swallowed aids digestion. If you wish to have your horse in a condition to perform fast work, for a short distance, a small stomach is best, but if you wish strength to stay the distance, let the stomach be of good size, and give plenty of work to keep the wind clear. The smaller the stomach the larger the lungs, and for this reason admits speed; but there is danger of drawing them too fine. Give now and then carrots, parsnips, turnips and potatoes. They regulate the bowels and restore the tone of the stomach. A mixture of roots and oats or feed is good.

Give water often. Rain is the best, if good, but rarely found so. A capital drink is formed by stirring into the water meal, and letting it stand a few minutes before giving. Feed for fast work four hours before driving, and then drive slow until the bowels are empty. Fast work suspends digestion, slow facilitates it. If worked on a full stomach, it is apt to cause fermentation, thereby causing inflammation and colic. Of course it is known that a horse never ought to be fed or watered while warm.

Driving.

Have the throat latch and check rain loose, to let free circulation of air through the windpipe. Martingales, either standing or waving, are not fit for a horse, pulling his head between his legs, preventing their fore legs stepping well out in front, making him liable to cut them with his hind foot. Have the britching loose, so as to prevent chafing of the quarters, and also to let him stride naturally. The breast collar is better for light work, being cooler, and the English for heavy work, as it presents a larger surface to the shoulder. Drive easy the first few miles, then brisk, and towards the end of the journey slow, so as to bring the horse in cool. If brought in sweaty and muddy, remove with the sweat knife, (or what will answer as well,) a bit of rounded wood, what will come off easy; then clap on the blankets, and walk him until cool, when groom him.

Perhaps this "care of the horse" will be laughed at as only applying to city horses. Is it not just as desirable for the farm horse to be as well cared for as the city horse when he does as hard work? Is it not a duty towards him? How often we see horses after working all day, come in at night covered with mud and turned into the stable to sleep upon a board floor. Is it better for a man to have the pores of the skin stopped by dirt or kept clean, to sleep upon a board floor or upon a bed? Is it charitable to leave the horse in the field without any food, while the master goes to dinner? Why can he not wait until night? Is he worked harder than the horse? God has made the stomach of the horse such that it digests food easier than most any other animal, and why is this, if not so that he can almost always be in condition to use? In the field the horse is almost continually eating, and if the digestive powers were not very active, would he be enabled to eat as often and as much as he does? It is not from motives of selfishness, as he receives double the quantity at night, and then the stomach being weakened by long fasting, it is not able to digest the large quantity hunger dictates to be eaten, so fermentation ensues, and colic or inflammation carries the victim off.

ONE WHO HAS TRIED IT.

CORN AND POTATOES TOGETHER.—John Elmore of Lorain Co., Ohio, writes to the Ohio Cultivator of several experiments in planting corn among his potatoes, by which he thinks he saved the latter from rotting, and got a fair crop of the former. A small variety of corn should be selected, and only planted between every other row.

CULTURE OF ASPARAGUS.

We are indebted to JOHN HAROLD, Esq., Sec'y Queens Co. Ag. Society, N. Y., for the following statement of a crop of Asparagus grown by Mr. Peter Cock of Oyster Bay, and for which the first prize of the Society was awarded to Mr. C.:

The plot of ground contains 7 acres and 7½ rods, planted in rows 4 feet apart. To be understood, divided it into 7 equal parts—3½ parts have been cut 7 years—1½ parts 4 years—1 part 2 years; and 1 part, planted this last April, has not been cut. The one part cut two years, was cut but a short time, therefore but little was obtained from that.

The farm is located near the salt water, and the plot has a slight southwest exposure. The soil is a sandy loam, and from continual manuring is in good condition. The manure used is New-York stable—70 loads of 14 bushels each, (but which do not actually measure when received, over 10 bushels,) to the acre, put in deep drills between the rows. The crop is cut with knives, and put up in bunches 7½ inches long, 5 inches diameter, weighing 3½ pounds per bunch. Commenced cutting April 30, ended June 19th. Highest number of bunches cut on any one day, 453. Lowest number, on the first day, 7. Average number per day, 213.

The crop was sold in New-York at 21 cents per bunch, to be delivered at the landing.

Amount sold, 9,155 bunches at 21 cents,		$1,922.55
LABOR AND EXPENSES.		
420 loads manure, at 60 cents,	$252.00	
Unloading and carting on the grounds, 4 teams and 7 men, 1½ days at $14,	21.00	
Preparing the ground for manure, plowing and harrowing, team and man, 8 days at $2.50,	20.00	
Cutting and bunching, 229 days at 75 cents,	171.75	
Carting to the landing 40 loads at $1,	40.00	
Use of boxes,	5.00	
Clearing up the ground, man and team, 4 days at $2.50	10.00	
Plowing and hoeing,	10.00	
		549.75
Net profit,		$1,372.80

Number of bunches cut for 3 years: 1858—5 acres, 6,593 bunches; 1859—6 acres, 8,156 bunches; 1860—6 acres, 9,155 bunches.

HORTICULTURAL PHOTOGRAPHS.

A correspondent of the Horticulturist suggests that societies which offer premiums for the finest flowers and fruits, procure photographs of those which are chosen as the best, giving the exhibitor a copy, and keeping one on its records. Additional copies might be taken and offered for sale to reimburse the expense.

Would not a photograph of this kind be more highly prized by a successful competitor, than the more expensive premiums in money or in medals?

We may add that but few common artists know how to place an object of this kind, in order to obtain the best picture. We have seen some that covered the whole plate, in one confused mass, without any relief, or without the effect having been studied of a strong and proper light. To appear well, the object must be clear, distinct, and alone,—the simpler the better,—and must be relieved by a back ground that will assist these requisites.

THE CUYAHOGA GRAPE.

F. R. ELLIOTT of Cleveland, who has an extensive acquaintance with fruits, gives the following opinion from examination of this new grape: "It is nearly as large as the Catawba—has compact bunches—is the color of Rebecca—and a delicious, sprightly, aromatic grape, far better than Rebecca and Diana but not equal to Delaware. Its size, color, and quality, place it without question among the best of hardy grapes. As an amateur grape, it is indispensable."

[For the Country Gentleman and Cultivator.]

WASH FOR BUILDINGS.

EDITORS Co. GENT.—In a former number of your paper, I noticed an inquiry for a recipe for some durable wash. In 1850 I built a stone house on a tolerable high hill, 38 by 42 feet, three stories high. It was dashed on the outside with mortar composed of the best lime and sand that Chester county affords; but there were numerous small cracks in the mortar when it dried, by which the blowing rains found their way through the wall; and having noticed hydraulic cement, mixed with milk, and put on with a whitewash brush, highly recommended in the Co. GENTLEMAN, I applied it to very considerable advantage. During the past season I procured another barrel of the cement, and gave it another coat. The cement and milk alone affords quite a handsome color; but some of the late blows that we have had still penetrate the building, particularly over the windows. This wash was said to answer equally well on stone, brick or wood, and I think the colors vastly preferable to lime whitewash without coloring.

A short time ago I met with an account which states that "parts of the palace at Westminster, England, which were fast going to decay, have been restored by the application of the silicate of soda solution, washed after drying, with dilute muriatic acid, so as to render the soda soluble, when it washes off with rains, &c, leaving behind it an indestructible coating of pure silica or flint, on which not even the hardest scrubbing with wire brushes and water makes any impression. Applied to iron in a somewhat similar way, it forms a coating that will preserve the metal from rust. The roofs of the Clock and Victoria Tower, to which it has been applied, are bright and clean as when emerging from the foundry. It adheres to a metal surface so tenaciously, that in attempting to remove it the chisel chips off the iron with it. It appears indestructible by the elements, and is uninjured by long immersion in sulphuric acid." Now if some kind friend who is competent to do so, would give us the desired information relative to the propable cost and application of said ingredients, I shall (and probably many others will) be very much obliged.

Highland Rome, Pa. JOSEPH COPE.

[For the Country Gentleman and Cultivator.]

BLACK HAMBURGH FOWLS.

Of all the gallinaceous tribes, the Hamburghs are beyond all other breeds especial favorites of ours. There are none, perhaps, except the game cock, that approaches them in symmetry and brilliancy of plumage. The Black Hamburgh, which differs in nothing from the class to which it belongs, except in color, which is a brilliant black, with rich glancing metalic tints. Their plumage is also compact and close, and in good specimens they attain a depth of tone seldom surpassed by any other variety. The brilliancy of their plumage contrasts favorably with the coral red of the large double rose comb, pointed and terminating in a single pike behind, which extends far back and curves gently upwards, wattles large, round and red, with a well developed white ear-lobe; tail ample and flowing; legs tapering, and of a dark color; carriage lofty, with a brisk and spirited bearing. The shortish, small legs and generally compact form are no less pleasing to the eye than valuable in an economical point of view, as indicative, technically speaking, of the comparative absence of offal.

The Black Hamburgh fowl is but partially known in this country, and seems to be another fine variety which the ardor of research has reeently gained for us. They are profitable fowls to keep, being excellent layers of good sized eggs, and not large eaters, and rather inclined to roam, by which means they procure, when allowed their liberty, much of their living in the summer months when worms and insects abound. They are hardy, and the chicks, unlike the Spanish, come early into feather.

With this variety of Hamburgh fowls we must confess ourself not much acquainted, having only had them in possession for two years; but our experience has been sufficient to form an opinion of their merits. The weight of the cock birds 4½ to 5½ pounds, that of the hens 4 to 5 pounds. As to the quality of their flesh, we cannot express an opinion, having never tasted of their meat.

The hen is of a fine, round, plump shape; in form they closely resemble their cousins, the Golden Spangled Hamburghs, and may bear the same relationship to them that the Black Shanghais do to the White, and other colored birds of that breed. C. N. BEMENT.

FATTENING TURKEYS.

A writer in the Germantown Telegraph furnishes that journal with the following statement: Much has been published of late in our agricultural journals in relation to the alimentary properties of charcoal. It has been repeatedly asserted that domestic fowls may be fattened on it without any other food, and that, too, in a shorter time than on the most nutritive grains. I made an experiment, and must say that the result suprised me, as I had always been rather skeptical. Four turkeys were confined in a pen and fed on meal, boiled potatoes and oats. Four others of the same broods were also at the same time confined in another pen, and fed daily on the same articles, put with one pint of finely pulverized charcoal mixed with their meal and potatoes. They also had a plentiful supply of broken charcoal in their pen. The eight were killed on the same day, when there was a difference of one and half pounds each in favor of the fowls which had been supplied with the charcoal, they being much the fattest, and the meat greatly superior in point of tenderness and flavor.

Making Vinegar.

Vinegar, according to a writer in the Genesee Farmer, is cheaply made. We republish his recipe:—To eight gallons of clear rain water, add three quarts of molasses; put into a good cask: shake well a few times, then add two or three spoonfuls of good yeast cakes. If in summer, place the casks in the sun; if in winter, near the chimney, where it may warm In ten or fifteen days add to this liquid a sheet of brown paper, torn in strips, dipped in molasses, and good vinegar will be produced. The paper will, in this way, form what is called the "mother," or life of vinegar.

The Country Gentleman's Ink.

[*For recipe see Cultivator for* 1860, *page* 51.]

This ink is cheap "and black as night,"
It flows superbly while I write;
Four cents a quart is the expense,
And by the gallon just nine pence.

Excuse the poetry, Messrs. Editors, and if more is wanted, please call on some one else, as over-taxing the brain often proves disastrous. Let me say, however,—in simple prose—that having made a quart of the ink according to directions, I think it far better than any I have been able "to buy at the store" for a long time, and would recommend it to all who wish a good article of writing fluid. J. L. B.

Jefferson Co., N. Y.

[For the Country Gentleman and Cultivator.]

Recipe for Making Vinegar Quickly.

MESSRS. L. TUCKER & SON—You wished for one of your readers a recipe for a speedy method of making vinegar.

For one barrel, take 2 quarts of molasses and 15 gallons of hot water, and stir well together, and while hot put into a barrel half full of worked cider. Stir well together, and in about two weeks it will be fit for use. JERSEY.

P. S.—I should prefer less water; and more time I think would make a vinegar that would suit me better; but from the above recipe and our best Jersey cider, the vinegar would be far superior to common cider vinegar.

[For the Country Gentleman and Cultivator.]

What Makes Butter Streaky.

We have recently met with this question, and would reply that the only cause for streaky butter ever occurring in our experience is the insufficient working of the salt through the mass. Unless great care is used, butter is always of different colors before the first working (after salting.) Some portions will have little or no salt, and be of a lighter color, and the dairy-woman should work so as to mix these portions with that thoroughly salted, or she will have streaky rolls or tubs of butter. A very little care, when working the second time, will prevent this result. B.

The manufacture of oil from coal is likely to be introduced extensively into the State of Arkansas, as the coal appears to be well adapted to that purpose.

BRIEF EDITORIAL MEMORANDA.

As mentioned in the last number of the COUNTRY GENTLEMAN, the writer week before last, had the pleasure of visiting Franklin County, Mass., for the purpose of being present at the opening meetings for the season of several of its most flourishing FARMERS' CLUBS, and addressing them upon subjects connected with the improvement of American Farming. A fall of snow on Tuesday, and during Tuesday night, was sufficient to put the roads in excellent order for the sleigh, and—in the escort of J. S. GRENNELL, Esq., of Greenfield, to whom we have on previous occasions acknowledged our indebtedness for many kind attentions—we can only express the hope that our four days and evenings passed off as profitably for all concerned, as they did, pleasantly as well as profitably, for us.

THE GREENFIELD FARMER'S CLUB.—The meeting of this club, particularly referred to last week, was quite an informal gathering of Farmers only, where we talked over matters together, very much as we might have done at the fireside of each —answering and asking questions in turn, so as to elicit mutually as much information and as many facts as possible. President, H. C. NEWTON; Vice President, Fred. G. Smith; Secretary and Treasurer, J. S. Grennell.

THE BERNARDSTON FARMER'S CLUB AND AGRICULTURAL LIBRARY ASSOCIATION.—The Bernardston Farmer's Club and the Bernardston Agricultural Library Association, consisting of sixty members, at their late annual meetings had voted to unite the two and organize under the name of "The Bernardston Farmer's Club and Agricultural Library Association." JOHN SANDERSON, President; Isaac Barton Isaac Burrows, Nelson Burrows, Imla K. Brown, John F. Hale, Loren B. Slate, and Dr. Wm. Dwight, Vice Presidents; Samuel J. Lyons, Secretary; Almon Newcomb, Treasurer; Alanson P. Hale, Collector; Daniel W. Temple, Librarian; Hon. H. W. Cushman, P. L. Cushman, and Silas N. Brooks, Executive Committee.

Here we spent Wednesday evening—the commodious rooms of the Powers' Institute being well filled with members of the Association and their families, while several gentlemen and ladies were so thoughtful as to have provided music expressly for the occasion, thus assisting very materially in diversifying and enlivening the proceedings. We have seldom seen so large an assemblage, so attentive during the presentation of practical farming matters; for more than two hours, and until the distance between the Institute and their homes became a matter for quite serious consideration on the part of many who were present, the interest of all appeared unflagging in the address delivered, and in direct questions put according to the agreement made at the beginning by the President, especially with regard to English farming and farmers.

THE SUNDERLAND FARMER'S CLUB.—The sleigh-ride to Bernardston had carried us about seven miles to the northward, and the return to Greenfield was made—after fortifying ourselves by accepting the social hospitalities of an attentive friend—under the brightest and most starry possible of skies. The next evening (Thursday) we turned our faces southwardly for ten or eleven miles, to Sunderland, where a kind greeting awaited us from the President of the Club, W. AUSTIN SMITH, Esq. The Town Hall had few vacant seats, and the same interest was shown —the meeting again continuing in session for over two hours. We were pleased to find this club—like the others —in a condition evidently so prosperous. The Secretary is Mr. John M. Smith.

THE WAPPING FARMER'S CLUB.—We feared that we should be unable to meet our friends at Wapping, as was the case with those at Shelburne—from lack of time, but finally determined on Thursday to remain over for the purpose of spending the next evening with this well established and flourishing club. The School House here contained an excellent representation from the farmers of the vicinity, as well as their wives and sons; nowhere was there more alacrity shown, after the address was over, in suggesting inquiries to the speaker, or inquiries put which displayed more intelligent thought upon all the practical bearings of the topics discussed; and notwithstanding the previous determination on our part to get through at a somewhat earlier hour than before, the time passed by unnoted, and it was it anything rather later than usual when the meeting finally adjourned. The President of this club is our friend JAMES CHILDS, and the Secretary Albert Stebbins. It was organized a number of years ago, comprising some of the best farmers of this part of Deerfield, and it would have been a source of much regret had circumstances compelled us to forego this opportunity of witnessing their proceedings and becoming acquainted with so many of their members.

OXFORD-DOWN SHEEP.—We were interested particularly in seeing at Greenfield, the excellent Oxford-Downs lately purchased by Mr. GRENNELL from R. S. FAY, Esq.—Mr. G.'s flock now includes about thirty pure bred, among which are several imported, together with a number of crosses of the Oxford-Down upon the Irish Smut, which showed to good advantage the improved results obtained by the infusion of better blood, both as regards the mutton and the wool of the grades. Mr. S. A. SMEAD is associated with Mr. Grennell in the ownership of some of these sheep, and there can be no doubt of their effecting a great amelioration in the character of the flocks of the neighborhood. Mr. G. at our request, kindly promises to furnish, as soon as his leisure permits, an article upon this subject for the Co. GENTLEMAN. Among other stock upon the place, his Chester County pigs, obtained through Paschall Morris of Philadelphia, are worthy of especial note, and are winning their way to general favor.

THE GREAT SANDERSON OX.—An allusion has heretofore been made in these columns to the Great Ox owned by Mr. SANDERSON of Bernardston. We had the opportunity of seeing him for a moment, in the evening by lantern light it is true, but sufficiently well to speak understandingly when we add that it justifies all that has been said of it. Taller and *bonier* oxen we may have seen, but never, we think, an animal of the cattle kind, of corresponding weight and at the same time so well made and well developed, so evenly fatted, so square and perfect above, below and at both ends. It is supposed to weigh now about 3,500 lbs., but has not been lately brought to the scales owing to the inconvenience of getting it about. Unless there is something more deceptive in the light of a lantern than we are prepared at present to believe, it will be long before we look upon its equal.

It is necessary, however, that these Notes should be brought to their conclusion; and, in again presenting our acknowledgments to Mr. Grennell—for the arrangement of our time, which could scarcely have been done to better advantage, as well as for having devoted his own so freely to the purposes of the visit—we should also tender our thanks to the officers and members of the clubs referred to, for their cordial greeting and numerous marks of attention. Engaged as we believe they are in a good work, their example is one that may be safely commended to farmers elsewhere,—in the establishment and general support extended to organizations calculated to advance interests so important and to exert influences so beneficial. It is therefore that we have thought it well to devote so much of our crowded space to the publication of the Memoranda of this visit,—which, if it shall have at all contributed to strengthen these agencies of Improvement, or to incite more earnest and intelligent aspirations after its accomplishment,—will have had a reward far beyond the enjoyment we derived as it passed. L. H. T.

WINTER WORK.

Of course all out-of-door work in the garden, in northern latitudes, is suspended until spring. There are many things, however, relating to the Flower and Kitchen garden which may be attended to in the winter. All plans for laying out or altering the arrangement of the garden should, by all means, be considered in the winter. This is a season of leisure: every subject may receive due attention and be thoroughly discussed in the family circle. What kinds of trees and shrubs should be purchased, the positions they are to occupy with reference to the best effect, the flower and vegetable seeds to be procured, these are matters which should not be left until the very last moment, but which may well claim and should receive serious attention.

There are also many practical matters to be attended to during this season. Flower and vegetable seeds which have been collected, should be carefully cleaned from sticks, dust and chaff, put in small, neat paper bags and carefully labelled so that when the time comes for planting, there need be no *guess work*. How often is it the case that when seeds are wanted for planting, all the odd nooks and corners of closets are ransacked for "that bundle of seeds." When it is found and opened, the different varieties are found in twisted bits of newspaper or tied up with a short piece of thread or yarn with no label, or else, having had labels tucked into the strings, they are all found detached from their appropriate parcels, and only serving to show that the seeds are *somewhere* in the bundle. Or else the papers not being tied, the seeds are all mixed together in the bottom in admirable confusion; melon, cucumber, radish, mignonette, balsam, and four-o'clock seeds, all in what a printer would call "pi." Now all this might be avoided by half an hour's labor in making paper bags. The children would be delighted with such an occupation. Make them one as a pattern and they will soon have ready an assortment of the various sizes. When ready to put away, be careful to place them where the mice or roaches cannot get at them, or you may chance to lose many of your most valuable seeds. Do not put them away so carefully as to forget where they are, however.

Labels for fruit trees, shrubs and plants should be prepared in winter. Take time enough to make them neatly, paint one side with white paint, put copper wire on to fasten them with, and you have labels which will remain legible, when written with lead pencil, for years. Labels for plants should be a foot long to allow them to be thrust a sufficient distance into the ground.

All rods, whether of wood or wire, should receive a coat of paint, and be tied in bundles and stowed away. Bass matting should be procured, shears, pruning knives and all similar instruments sharpened, the spades, shovels, hoes, &c., cleaned and put away in a dry place; vases, garden seats, wire trellises, and all similar ornaments should be painted if necessary, and stowed away under cover.

These are things which should be attended to. There are probably others which I do not think of. This one rule, however, should be observed: do everything which it is possible to do during the winter. Leave nothing for the spring except those operations which can only be performed then and which will surely be found pressing enough without unnecessarily adding to their number.

G. B. H.

[For the Country Gentleman and Cultivator].

AMERICAN BLACK RASPBERRY.

As I am writing, I will tell you about my raspberries. Three years ago last spring I set out a row of the common black raspberry, just thirty steps long, and from those we picked the last summer three bushels, or 96 quarts, beside some picked for the table that we did not measure. We picked 18 quarts every other morning.

My object in writing this, is not to tell a big story, but simply to let my brother farmers know that with very little labor they can have a fine lot of as nice fruit as any body need have, and not have to send off for some new kind at high price. I will simply say that this row takes up no ground but what was occupied, as is too common, by grass and weeds. As to culture, I dug holes from three to four feet apart, and set out bushes or canes. Then having a pile of rotten chips, I took my wheelbarrow, wheeled them on, or enough to bury the grass, say from four to five inches, and that kept nearly all the grass and weeds down. Then after they had done bearing, I cut out the old stocks to let the young ones grow, simply pinching the end off where they were growing too long.

Laporte Co., Ind. C. F. WEBSTER.

[For the Country Gentleman and Cultivator.]

Scale or Bark Louse.

Remove this unsightly pest from your young fruit trees by applying a wash made of potash water, or if not convenient to obtain the potash, use a strong decoction of lye. Apply with a cloth or brush on a damp day. L. J. T.

VALUABLE RECIPES.

[The following valuable receipts, from an intelligent and skillful lady residing in New-York city, although mislaid or delayed a year, will be none the less useful at the present time. They allude to a former receipt from a Keokuk correspondent, and on reading them to a lady who resides between New-York city and Keokuk, and who never had the dyspepsia, she maintains that the pie is still quite too rich; and she thinks that the truth lies between extremes—geographically considered in the present instance, and she would use much less lard, butter and sugar, and for her own taste, would omit nutmeg.—EDS.

Lemon Pie.

"She can't beat mother's lemon pie," said my son, who has a special regard for pies in general, and lemon pie in particular. I was of the same opinion as I read NANCY'S recipe in your number for October 20, 1859. It is too rich, for it would soon produce dispepsia in New-York city, if harmless in Keokuk. I send you my recipe:

Take two quart bowls; in one squeeze three lemons and extract the seeds. In the other beat three eggs, with three teacups of sugar, grate in some nutmeg, and set them aside. After mixing the crust, which I do with half a pound of lard to rather more than a pint of water, sometimes rolling it out and spreading on it a quarter of a pound of butter—at other times omitting most of the butter—put the under crust on two plates; then mix the contents of the two bowls, pour it on the crust, cover them with the top crust, and bake immediately, as the lemon juice and egg soon harden together.

If a more simple pie is liked, add a teacupful of boiled corn starch. No milk.

Sally Lunn.

I am tempted to send my recipe for this most delicious tea bread, which, once eaten at your table, will cause your friends to rejoice when asked to come again.

Take a stone pot, pour in one pint bowl of sweet milk, half a teacup of baker's or other yeast, one-quarter of a pound of melted butter, a little salt, and three beaten eggs. Mix in about three pint bowls of flour. Let it stand several hours, or until quite light; then put into Turk heads or other tin pans, in which Sally should again rise up before being shoved into the oven, to be "brought out" and presented to your friends as the beauty and the belle of the evening. WOOD.

[For the Country Gentleman and Cultivator.]

John Johnston in Duchess County.

Messrs. Tucker & Son—In my last, I had left the farm of the Hon. Wm. Kelly, with the view of calling on Charles S. Wainwright, Esq., some seven miles further north.

I found the land rather rough, with many rocky ridges. What is not rocky seems to be excellent soil, but under a bad state of cultivation, and I saw several loads of baled hay being taken to the harbors on the river, to be shipped to the city. So long as farmers continue to sell everything they raise, in place of making it into beef, mutton, pork, or butter and cheese, the land will get poorer and poorer; and I should think the farmers must get poorer, too, as I don't believe any farmer can afford to buy manure at city prices, have it shipped from 75 to 90 miles up the river, then draw it some miles to his farm, and make it pay; and surely stock must pay as well and much better in Duchess county, than almost any county in the state, they are so near the best market in the United States.

I found Mr. Wainwright at home, and I took a deal of pleasure walking over his farm, and looking at his beautiful Devons. He has 25 Devon cows that I have never seen equalled; they were more uniform in appearance than any equal number I ever saw. When I mentioned that to Mr. W., he said there were some 18 or 20 all descended from one cow. They are as beautiful a lot of cows as any man can wish to see, and Mr. W. gives no extra feeding over what every farmer ought to give. He feeds no grain but to his calves the first winter. He raises some turnips and mangolds, and feeds his cows a few in winter. (By-the-by, I saw mangolds there, weighing 21 pounds each.) Mr. W.'s calves were beautiful. I always think Devons show best in calves. These were very fine. He has a number of bulls, one imported, a very fine animal, but he has one of his raising I thought better. He had also a six year old pure bred Devon heifer that never had a calf. He has fed her fully for some two years. She is small, but very fat, and weighed a little over 1,500 pounds. He expects to sell her this month for Christmas beef. His price was $150. Some would think that an enormous price, but if such men would make such beef and count the cost, they would find they were not making a fortune. Making up such cattle re quires much feed, besides close attention.

Mr. W., like Mr. Kelly, has few division fences, yet Mr. W. plows a considerable portion of his land. He has tile drained much of his land, and is now going to drain more thoroughly, and put his drains only 20 feet apart. He says his subsoil is very stiff, but that Thomas' drain plow lessens the cost of draining immensely—more than one-half of the former cost of digging. He first opens his drain with a common plow, throws one furrow to the right and another to the left, and puts the drain plow to work, which expedites the business so that draining is not *much of a job*. I noticed over his drains the same evidence of their utility as on my farm, and other farms in this neighborhood. His aftermath on his meadows had not been pastured since mown, and any one could see every drain plainly marked by the more luxuriant clover and grass right over the drain.

I found Mr. W. a little like many other people who think it owing to that being so much drier than other land; but that is not the cause, as thorough drained land is just as dry in the centre between the ditches, as it is over the drain. The cause of the more luxuriant growth of the grass or grain over the drains, is the mixture of the subsoil and soil to a depth of 2½ to 4 feet; and if Mr. W.'s land, and my land, and thousands of other men's land, could all be cultivated as deep as our drains are, they would all bear just as luxuriant crops as that over the drains. The first crop after draining, on the top of the drains, is seldom good unless care is taken to have the top soil put by itself, and filled in the last. I have drains that have been made from 16 to 18 years, and when in crop or meadow they can be *traced* as plainly as if they were laying open. Then again if in pasture, if there is not stock enough in the field to eat up the grass as fast as it grows everywhere, (which is, I am sorry to say, too often the case on many farms,) you can then trace the drains, by the horses, cattle, or sheep, eating the grass close to the ground on the top of the drains. This is not because the land is dryer, but because, by being mixed and loosening the subsoil to the depth of the drain, the herbage is made sweeter and more nutritious, and stock of all kinds like it much better; and if all our land could be loosened the same depth, we could not only keep more stock on the same land, but make them much better. I have been trying for some years past to plow a foot deep. Even that makes a wonderful improvement on both grain and grass. I know a foot deep is not thought deep plowing by some farmer's talk, but when they measure accurately, and find they have a foot in depth, they must have a furrow of about 16 inches in width, and it is but seldom we find a plow but what requires the furrows to be one-third wider than deep, especially if the furrow is near a foot deep.

I am fully of the opinion that if Mr. Wainwright drains his land some 33 feet apart, and gets his plow down so that he can turn over a furrow one foot in depth, that he will find his crops of every kind more luxuriant, but not for the first year if in a spring crop. Deep plowing should be done when the land is to be summer fallowed; then the fresh turned up subsoil gets sun and air for months before the grain is sown, and also gets mixed with the soil by the repeated plowings and harrowings, and the more of that the better in that case.

I know that some farmers will boldly tell you that you should never plow but once for a crop of any kind, but these men speak without thinking that *circumstances alter cases*, and in this case I think I know what I am talking about, and have thought much on the subject.

I had almost forgotten to say that Mr. Wainwright's dwelling stands in as pretty a situation as is to be found anywhere. From the door or windows you have an extensive view of the North River, I think some sixteen miles. When I was there it was covered with sailing vessels.

Mr. W. says he has never known so little demand for pure bred stock of all kinds, as this year. I remarked that I thought it was caused by the alarm about the cattle disease, but he thought not. He has many fine Essex pigs; formerly he could not supply the demand, but this year he has sold none, and is getting over stocked. They are beautiful pigs, and quite fat on pasture only. He says he would sell pure Devon bulls at very reasonable prices, and I think there is no better bred Devons anywhere. He has but few sheep, but those are very fat. I think those North River farmers keep too few sheep. I find no stock that pays me better. John Johnston.

[For the Country Gentleman and Cultivator.]

SAVING MANURE.

Messrs. Editors—It is an important matter with every farmer, to learn the best manner of husbanding his manure. Several plans are suggested for effecting this purpose, but it is difficult for one who has had little experience to determine which is the best. One is that adopted by Alderman Mechi, described in one of the letters of your junior editor, during his absence in Europe. This has been tried by one or two farmers on this side of the Atlantic, and with apparent satisfaction. It has occurred to me, however, that the vapors arising from the manure vats would be injurious to the animals standing over them, especially in the close stables generally used in this vicinity. The expense, too, of constructing the boxes and vats is so considerable, that the benefits derived from the arrangement would hardly repay its cost. I would therefore inquire whether a less expensive plan of saving the manure would not be preferable?

I have two modes in view. One is that advised by Thaer, namely, the construction of a basin in the barnyard into which the solid excrements are put. The liquid excrements are also conducted into it by means of a trough leading from the stables. The sides of this basin

are to be made high enough to prevent any waste by washing, and a pipe is placed in the center, to lead off the urine after it has moistened the solid portion of the manure, or any excess of moisture caused by rains, and conduct it to a tank below. Would this plan obviate the disadvantages of a want of protection, or would it be better to construct a shed to keep off the sun and rain, and have the manure tank entirely separated from the basin provided for the solid excrements? Your advice as to the best arrangement to be adopted by one who has made a selection of none, will much oblige your correspondent. Or if you think any one of those mentioned cannot be improved, as they are recommended by high authority, please mention which one you would prefer. J. S.

Alleghany County.

We think Alderman Mechi's mode too expensive for common use in this country. The cheapest mode of drawing or delivering manure is to combine solid and liquid into one material by allowing the liquid to run into the depression where the solid part is deposited, and by adding enough straw, (cut is best,) dried muck, dried turf, or other substance, to absorb all the liquid portions, and retain them in a solid state, but no more than is necessary for this purpose, in order to prevent a needless cartage of matter. By sheltering the heap, and excluding the water of rains, it is obvious that a much less amount of absorbing substance would be needed. The mode which our correspondent describes, of drawing off the excess of liquid manure, is a good one; one of the best, perhaps, where it is desired to use a portion in the liquid state. The pipe should however be of good size, have considerable descent, and be well guarded at its upper end to prevent obstruction.

[For the Country Gentleman and Cultivator.]

CULTURE OF CARROTS.

Messrs. Editors—The Gentleman has contained several articles recently, upon the raising of carrots—giving the different modes pursued in their culture; and although cultivators agree in the main as to the mode of cultivation, yet they differ a *little* in the details.

This crop is a very important one, as it furnishes excellent food for cattle and horses during the winter and spring months—especially are they good for cows giving milk. But many are deterred from raising them, because they have the impression that it requires too much labor—it will not pay. With suitable ground for the crop, I think this impression erroneous. Most of the readers of your valuable paper, it seems to me, might adopt some one of the many methods given, so as to make it a profitable crop.

Let me add my method to the list already given, although it does not differ materially from that of others, except in sowing the seed. For this part of the work—which is often considered a task—I have an implement that suits me better than any thing I have tried; and as it is not patented, and is very cheap—mine cost twenty-five cents—all who wish can use it free of charges for one year at least, and any kind of seed smaller than potatoes can be planted with it, even in a high wind. I have one of Emery's seed-sowers, but cannot make it sow small seed—such as are sown with the brush—uniformly and even. The implement alluded to, is simply a tin tube, three feet long and one inch in diameter, with a tunnel (without the nose) five inches in diameter at the large end, soldered on to one end of the tube. With this, the operator can walk erect and sow the seed very expeditiously as will be shown farther on.

The ground should be plowed fine—narrow furrows—and as deep as possible, with a liberal coat of well rotted manure spread evenly and plowed in. Then drag and roll until the ground is brought into fine tilth—the last operation should be with the drag, so as to leave the surface fine and loose when the seed is sown.

Now open drills one inch deep, and the desired distance apart—if to be worked out with a horse, (which, by the way, I think too large a *machine* to work among things so wee as carrots in the second leaf, when they should be hoed and thinned if too thick,) two feet is near enough, and one foot if to be worked with the hoe. Let the rows be perfectly straight, as it will greatly facilitate the after culture.

To sow the seed have a bag, such as is used for planting corn, tie it in front of the person who is to do the work, put in the seed, and take the tin tube aforesaid in the left hand, keep the small end directly over the drill and close to the ground, and with the thumb and fore finger of the right hand scatter the seed into the tunnel top, and "go ahead." Walk a pretty "fair gait," and scatter the seed all the time. Of course, when the thumb and finger are to be replenished with seed, a halt must be made, but no more than will be necessary to take breath, for the work can be done very rapidly. Be careful to let the seed pass from the thumb and finger uniformly—this will do away in a great measure, the necessity of thinning. The seed being sown, take a hand or garden roller and run it over the drills to cover the seed and the work is done.

When the plants are up an inch or so, they should be hoed and thinned out, if necessary—some say to three or four inches apart—this would probably give the greatest number of *bushels* to the acre, but perhaps not the greatest number of *pounds*—besides I doubt whether *large* carrots contain as much nutriment as smaller or medium sized ones. This is merely a matter of opinion—let it pass for what it is worth. They should be thinned so that the plants shall not stand in bunches at any rate, and kept clean from weeds. The first hoeing is the greatest labor; when this is *well* done I consider the "battle fought and the victory won." The ground should afterward be kept loose and clean.

For the convenience of digging—as this is done with the plow—and for other reasons, I like to have the carrot patch long and narrow, so that the plow can pass up one side and down the other, taking a row at every turn, if the rows are but one foot apart—if farther than this, the better way is to turn a furrow every other time in going round, working up to within about ten inches of the row, and at the next turn see how near you can come to the row and not hit it, and the roots will pull very easy. Now, when the digging is finished, the ground is well plowed, and the dead furrow is in the centre; then in the spring, to fit it for another crop—it is better to use the same ground for successive crops—commence in the centre and back-furrow, and the ground is made level or a very little raised in the centre. In digging the roots after this fashion there is no use for the spade, if the team has a good chance to work out at the ends. I dug seventy rods of ground this fall in a day, with the help of a boy, without spading out a peck. The tops are taken off with a knife, and I think they will pay for digging and topping to feed to milch cows. My way is to draw them, tops and all, conveniently near to the cellar, so that they can be topped into baskets and carried directly in; this saves handling, and the tops can be saved clean from dirt, and if put into small piles, will keep fresh for several days for feeding out.

I prefer digging pretty early, before the ground gets very wet—say the last week in October, or the first week in November, as then the roots come out much cleaner, and for this reason keep better. A cellar is the most convenient place for storing them. J. L. R. *Jeff. Co., N. Y*

Bee Moths.

A correspondent of the *N. Y. Post* says that he destroys vast numbers of millers in the night, during the active season of these insects, by placing a well stirred mixture of molasses and vinegar upon a white plate, near the hives, and on a level with the bottom board. In the morning multitudes are found caught. A small glass lantern, set on the dish would doubtless attract them, but it might attract many other kinds of millers.

Inquiries and Answers.

BLACK KNOT IN PLUM.—Can you inform me of any remedy for the black knot in plum trees. I have two fine ones that were attacked this fall, and several are entirely worthless from this cause. H. C. D. [Black knot in the plum cannot be cured, but it may be prevented. When it first makes its appearance cut it off clean; and keep cutting. If this remedy is promptly applied, it will be effectual—although some trees may become somewhat mutilated. The labor and attention need not be greater than for good cultivation. Some have told us that they tried this remedy and that it has failed, but on inquiry we have always discovered that there had been more or less neglect in its application—either that the disease had been allowed to extend for some time before any excision was made, or else the operation had been performed but two or three times in a season.]

TREATMENT OF COLTS.—I have two colts foaled in May last, and should like to inquire in regard to the proper way of feeding the first winter, the best kinds of feed, quantity, &c. I believe there are two ways of doing everything, and should like some hints from some of those who are accustomed to raising fine horses. H. C. D. [We hope some of our best horse raisers will give us their experience in relation to the winter feeding of colts. In the meantime we would remark that a sheltered yard, or a large loose box for each animal, may be the best place; and good hay, with a small regular feeding of ground oats, the best food. It is important that they should make a good growth, for which purpose they should have much nutriment. Corn should not be given.]

HUNGARIAN GRASS HAY.—I wish to learn through your truly invaluable paper, from practical men—those who have fed Hungarian grass hay—the proper way to feed it to fine stock sheep. Should it be threshed, or fed grain and grass together, unthreshed. FAYETTE. *Pittsburgh, Pa.* [We hope some of our correspondents will answer.]

ROADSIDE FRIUT TREES.—I will feel myself under many obligations to some of your numerous horticultural readers, if they will furnish through the columns of THE CULTIVATOR, a list of the most suitable pear and cherry trees for the purpose of planting on the sides of a lane of about twelve hundred feet in length, the two kinds of fruit to be planted alternately. J. B. W. *Louisville, Ky.* [If planted 20 feet apart, sixty trees would be required on each side, for the 1,200 feet—or sixty pear and sixty cherry trees. The hardiest trees for that region are probably Flemish Beauty, Buffum, Lawrence, Sheldon, Tyson, Fulton, Onondaga, Urbaniste, and probably the Bartlett. Nearly all of these are free growers. The *heart* cherries do not do well there, consequently the dukes and morellos must be exclusively selected, such for example as Mayduke, Belle de Choisy, Late Duke, Belle Magnifique, Early Richmond, &c. Our correspondent should bear in mind that these trees will need good clean cultivation for several years after they are set out; and that if they must necessarily stand in weeds and grass, it would be about as well to throw them into the Ohio river as to plant them.]

HARROWS.—What is the best kind of *flexible* harrow? Where made and by whom? Please give an engraving of some of the best kinds and oblige MANY READERS. [Among the best are the Geddes harrow, and the double square Scotch harrow; both of which are figured and described on p 293 of 2d volume of Rural Affairs, or the Annual Register for 1860. As we have inserted these figures a number of times in our columns in former years, it may not now be necessary to repeat the insertion. These harrows are made by most of the implement manufacturers in the northern states.]

DESTROYING LIVEFOREVER.—Will you, in the next number of THE CULTIVATOR, point out the best method of eradicating liveforever, "Sedum Telephium." G. M. H. [We know of no better way than to bury it deep in the soil, by careful spading if in a garden; or by deep plowing with Michigan subsoiler, if in a larger field.]

ROOT GRAFTING.—Is it true that root grafting (particularly making more than one stock out of each seedling) has been found by experience to produce unhealthy and short lived trees? Information on the above question is solicited from such as have a practical knowledge. D. S. *Pike Run, Pa.* [We have propagated many ten thousands of trees in both ways, a considerable portion of which we have seen afterwards in bearing, and have discovered no difference in their vigor or productiveness. There are isolated experiments, the results of which incline to one side or the other of the question, according to various controlling circumstances; but most of those propagators who some years ago were strongly opposed to root grafting have now given up their former opinion on the subject. There is one exception—in the colder portions of the Western States, trees budded or grafted a few inches above the surface of the earth are less liable to injury by freezing at the point of union, than root grafted trees where the union is at the wet surface.]

GRAPE CUTTINGS.—Will you please inform me when to cut, and how to preserve grape cuttings through the winter? Please state how deep they should be buried, and whether sand or earth is preferable. W. C. H. *New-York.* [Cut late in autumn, or any time after the leaves have fallen—select good, strong, well ripened wood. Take special pains not to let the wood become dry after it is cut—many persons are unsuccessful from this cause alone; or when such dried cuttings grow at all, it is often not till summer that they start. A good loam is best—we have, however, seen no difference in the growth of vines in the same plantation, one portion being strong clay loam, and the other light gravel, both parts having been well drained, subsoiled and enriched. The cuttings may be placed in any cool spot, and covered with sand or mellow earth. They have done well planted out late in autumn, if the soil has been in good order, and a winter mulch of manure applied. For winter keeping, a covering of a few inches will answer. Be careful they do not become too wet or water soaked, or they will certainly fail to grow.]

ALSIKE CLOVER.—We have several inquiries for the seed of this plant. If any of our readers know where it can be had, and the price, they will oblige several subscribers by giving us the information.

RATS.—In your issue of Nov. 8, "Hurley" wishes to know how to rid his farm of rats without poison. A rat terrier is the best thing we know of, and he will say so too if he will try one. H. J. D. *Champaign, Ill.*

GRAIN WEEVIL.—H. K. of Wrightsville, Pa., wishes to know how to destroy the Grain Weevil. We were successful in ridding our barn of the pest, by wintering sheep in the bay after the grain is thrashed. Every season, as soon as the bay was cleared, they occupied it until time to turn to pasture.
Near New-Haven, Ct. M. W. G.

UNDERDRAINING.—I am making some experiments in draining, using plank instead of tile or stone, neither of which can be had here. I take two plank, one four and the other five inches wide, and one inch thick, and nail them together thus A, forming a triangular channel for the passage of the water. What I wish to know is, will the water find its way under and into them when the subsoil is a stiff clay, there being joints only every twelve feet? Would it be better to put some fine brush or straw in the bottom of the drain before putting in the plank? J. R. G. *Christiansburg, Va.* [There need be no fear that the water will not find its way into the channel—to say nothing of the seam between the boards, there will be a small fissure between the lower edge of the plank and the bottom of the ditch—or if the plank sinks into the soft bottom, the pressure of the water in the soil will drive it into the channel. If water can find its way ten or twenty feet horizontally in reaching a drain, as it always does in every drained soil, there will be no difficulty in its passing an inch or two beneath the board; while the upward pressure of all liquids will cause it to occupy the channel made for it.]

RURAL ARCHITECTURE.—I saw a design for a farm house in your valuable CULTIVATOR for November. I am wishing to build a modern style dwelling in a country village, and wish you, if consistent, to inform me where the architect of said design resides, and also what author has published the best book on Rural Architecture, and where the volume may be procured. L. N. *Onondaga Co.* [The design referred to was one of half a dozen prepared for and published in our ILLUSTRATED ANNUAL REGISTER for 1860, by Geo. D. Rand of Hartford, Conn. There are several valuable works on Rural Architecture—those of Downing, Vaux, Allen, Wheeler and others, varying in price from $1 to $5.]

LIME IN ORCHARDS.—Will some of your numerous readers who may have had experience in the application of quick lime to orchards, be pleased to state through the medium of your valuable periodical, the effects produced. My own observation almost convinces me that its application to fruit trees, with any degree of liberality, is pernicious. Several orchards in this vicinage, which gave great promise in their youth, after having been treated with lime to the depth of three or four inches around the roots annually for some years past, are now stunted, and decidedly in decline, producing little fruit and that of very inferior quality and size, and in fact exhibit the appearance described by Pope, of

"Stunted hide bound trees that just have got
Enough of sap at once to bear and rot."

Ernest Town, C. W A SUBSCRIBER.

CARE OF SHEEP IN WINTER.

Those who make wool-growing a prominent part of their business, usually give their flocks more or less careful attention in winter, but these animals are often neglected to the great loss of their owners, especially by those who keep but small flocks and make other branches of farming their main dependance. Insufficient food and total lack of shelter, often cause death to decimate the flock; and a still greater loss is sustained in the reduced fleeces at shearing, and in the death of lambs in spring, for in value both depend much on the care previously given.

We have reiterated frequently the maxim, that "sheep should be kept in good condition at all seasons of the year," but would call especial attention to the fact above stated, that it is important at this time from its influence on the next wool clip, which will be light or heavy as the sheep keep up, *without check*, the condition they have attained through the grazing season. Speaking on this point, a writer in the Michigan Farmer has said—and we quoted the full paragraph a year ago—that when sheep lose their condition in November and December, the want of food has the effect of stopping the growth of the wool, completing the end of the fibre, which then becomes changed and dead, in a manner analagous to the stem of ripe fruit; and a renewal of good feed after these months, and after the growth of the wool has once been stopped, only prepares the skin to send forth a new growth that pushes off the old fleece, and causes it to be lost before shearing time.

A large share of the profit of sheep husbandry arises from the increase in lambs, and, as hinted above, their number, hardiness, and value, depends largely on the condition of the ewes in winter and spring. "One of the greatest sheep breeders has declared that sheep, highly fed about the time the buck is put with them in the fall, will almost invariably have two lambs a piece, and that these may nearly all be raised by proper attention to the mothers." Whatever share of truth there may be in this, it is unquestionable that sheep in good condition produce better lambs and take better care of them, so that they raise a much larger number than those in poor condition. It is getting to be the practice with many of those who keep pure-wool sheep to turn in the bucks about the 1st of December, that the lambs may not begin to come before May, when sheep may usually go to pasture, though they should still have a daily feed of grain, and return to their sheds in stormy weather. In the more northern sections of our country, and with the coarser wooled sheep, it may be advisable to provide for earlier lambs—as early as March or the last of February—as the season is too short to prepare them for market, or to allow them time for growth sufficient to endure well the second winter, when coming after grass.

We believe it is a settled fact that sheep do best in well ventilated barns, or half-open sheds, and with the run of small yards in the mild or clear weather of winter. Provision must be made for feeding racks for hay and grain under shelter, as sheep have a great aversion to water-soaked grain or fodder. In fact, the dryer their food the better it suits them; they prefer to take their water separate, and it should be brought where they can have convenient access to it, if not at all times, yet as often as twice a day at least. When it is supplied in their yards, they will drink frequently, though but a small quantity at a time.

Our readers may remember statements of injury to sheep from feeding grain to ewes, especially in its effects upon the lambs—a great mortality prevailing among them at an early age. Indeed, every spring we see in the various farm papers, inquiries in regard to the subject from those who have suffered losses in this way. But an examination of the whole facts in many cases, shows that feeding grain is not the primary cause, but rather late and ill-judged feeding to previously ill-fed and low conditioned sheep. The flock were in quite indifferent order when they came to the yards in winter, and from want of attention to proper feeding and shelter, became still lower in flesh with the advance of the season. At last, the owner wakes up to the fact, and thinks he must do something to bring them on or he shall lose all his lambs and a part of his old sheep beside. So as late, perhaps, as the middle of February or first of March he begins to give grain, and, to have it "do some good," gives a pint of oats per day or more; at any rate, more than the sheep can bear in their low condition. A sudden increase in flesh is the consequence, accompanied with derangement of the animal system, which results in difficult labors at lambing, fever and loss of milk in the ewe, and the death of the lamb from want of suitable nourishment.

No such result would occur with sheep kept at all times in good condition. No matter what grain is fed, if given regularly, as needed, through the winter, no ill effect can follow. On the contrary, to get the best and healthiest lambs it is always advisable to keep up the condition of sheep, either by feeding plenty of good hay or sufficient grain and straw to effect that object. If hay is fed a part of the day and straw the remainder, some grain must be added to make up the deficiency. Roots may be used for this purpose with good economy in the milder weather of winter.

Another important point in wintering sheep, is to divide the flocks according to age and condition. Those which are less thrifty cannot thrive when kept with a large flock of hardy sheep which have good appetites, while the poorer animals are less inclined to eat and more particular in their selection of food. Put by themselves, they can be favored and induced to eat more freely so as to go forward rather than backward in condition. This point is never neglected by those successful in sheep management, always securing large fleeces, and seldom losing sheep or lambs by disease.

To close we may add another hint, and that not one of minor importance. To winter sheep successfully it must be done under the eye of the owner, or one equally interested, and they must give due attention to the daily wants of the flock. In mild, damp weather, sheep consume sparingly, compared with cold dry weather, and the supply needs to be proportioned to their wants or great waste will be made. If any sheep seems ailing, an immediate inquiry should be had as to the cause and a remedy provided. Only one with an interest in the flock will attend to all these things.

☞ According to a recent visitor at Woodburn Farm, the estate of R. A. ALEXANDER, Esq., in Woodford Co., Ky.,—his place and stock now include 3,400 acres of land, worth $100 per acre, 300 horses, 250 cattle, and 600 sheep. No estimate is given of the value of the live stock, but the COUNTRY GENTLEMAN will probably be safe in the assertion that no equal number of animals of which the average value per head was so large, has ever been congregated on any one estate in this, if in any other country.

[For the Country Gentleman and Cultivator.]

DWARF BROOM CORN.

Messrs. Tucker & Son—I noticed in one of your contemporaries, an article commending pretty highly as a new thing under the sun, "Dwarf Broom Corn," and also an advertisement of seed at a pretty good price. I propose setting forth a few of the peculiarities of this variety, that your readers who may be unacquainted therewith, may form an opinion of its merits. It is no new thing in this region, nor is it by many very highly esteemed, although some prefer it to the old variety. It is short jointed, and is encased by the foot-stalks of the leaves from the bottom to the top, save where the seed ends of the brush stick out. It does not grow more than three feet in height, and will therefore admit of close planting. The brush is long and fine, and is very nearly of a thickness throughout. It needs no bending over to keep the brush straight, as the foot-stalks of the leaves keep the brush upright.

The brush being long, slim, and of a thickness, prevents that beautiful elasticity in a broom so pleasant to the sweeper. The stalk of the brush is much harder than in the old variety, and does not work so well in the manufacturing. There may be various opinions of these evils, but there can be but one about the trouble and labor of getting the leaf from the brush. It is impossible to tell where the upper joint is when cutting the brush from the stalk, and to be certain that you are not cutting it too too short, you are certain in getting it too long; that is, you cut below the joint, and then the trouble commences. The leaf sheath must be taken from the stalk of the brush, or it will not cure, but become mouldy, and you must pick it off a piece at a time. One of my neighbors actually picked his finger nails off last fall, and he did not plant the "dwarf" this season. L. J. T. *Lambertville, N. J.*

[For the Country Gentleman and Cultivator.]

How to Bleach Broom Corn.

Make a tight box of boards. Four feet wide, four feet high, and eight feet long, is a convenient size. The top board on the front side and three-fourths of the cover, should be on hinges for convenience of putting in and taking out brush. A false bottom of narrow boards should be put in, fifteen inches from the ground; the boards left three-fourths of an inch apart.

The brush, after being thoroughly wet by dipping in water, is placed on end, on the false bottom, and sufficiently loose for the smoke to find its way through. The brimstone is burned in the vacant space underneath the false bottom. It is usually introduced through a sliding door in the bottom front board. The part of the false bottom immediately over the brimstone, should be lined with sheet iron. Brimstone can be burned by sprinkling powdered stone on paper. About one-fourth of a pound to a bleach, is sufficient for a box of the size described.

Hatfield, Nov. 28, 1860. E. Graves.

[For the Country Gentleman and Cultivator.]

HOW I SAVED MY PLUMS.

In common with other plum tree owners, for a number of years past, I have failed to mature any fruit of this kind, until within the two last seasons. In the spring of 1859 I prepared the wash recommended by the New-York Observer, composed of whale oil soap, sulphur, lime and tobacco water. Within two days after making the application of this villainous compound, there came a shower, and according to directions I applied the wash again, making it only of the whale oil soap. Another rain occurring within a few days, I watched to see if the curculio would again attack the young fruit, and found them at it, detecting one in the very act. I again gave the young fruit a syringing with the soap suds, which stopped further aggression on the part of the little "Turk." The result was a heavy crop of fruit, even to the breaking of the limbs of my trees, while my neighbors, who had let their fruit take care of itself had none.

I might have added that in the spring of 1858, in experimenting with gas tar and coarse salt, I nearly killed a fine tree, it losing all its leaves.

This last season, having satisfied myself the year previous that the tobacco and sulphur might with safety be omitted, and finding that the curculio had commenced their operations, I again prepared my solution of soap and water, and also of lime water. In pouring the lime water off the lime, I carelessly let some of the lime run out, so that the foliage and fruit after the application had rather a whitewashed appearance. This was the only application needed or given. The curculio did not again molest my plums, although they attacked my pears and grapes. Now why the one application was sufficient, although we had frequent rains, I cannot state, unless the whitewash held the soap on the fruit. Be that as it may, I know that I had a fine crop of plums. L. J. T. *Lambertville, N. J.*

[For the Country Gentleman and Cultivator.]

How to Grow Cauliflowers and Cape Broccoli.

Messrs. L. Tucker & Son—I send you my experience in growing cauliflowers, broccoli and cabbage, which may be of use to some of the readers of the Co. Gent.

Many farmers say they cannot grow cauliflowers and Cape Broccoli. I will give you my way, as I have not failed to grow a good crop for twenty years on a sandy, gravelly soil, giving them the same cultivation that I do my cabbage. About the first of May I sow the large English cauliflower seed in the bed previously prepared, together with my broccoli and cabbage. When the plants are about three or four inches high I transplant out into my grounds prepared for broccoli and cabbage. In setting I water immediately with liquid guano, or in case I have no guano I take about half a bushel of hen manure and put it in a barrel and fill up with soap suds after washing, and dish slops, giving each plant about half a pint each. I stir the earth around the plants at least once a week, giving each about one gill of the liquid as prepared. As soon as the cauliflowers and broccoli begin to show heads I draw the leaves from the opposite sides of the plant, crossing and tucking one over the other so as to make them fast. This covers the heads from the hot sun, and blanches them so that they are much more delicate and tender than when left to grow natural. I had them the present season early in August weighing from six to nine pounds when divested of the leaves. By the bye I get my seed from either of the Messrs. Thorburns at Albany, or at No. 15 John-st., New-York, of J. M. Thorburn & Co., as I consider theirs the most reliable, true to their kind, and have never failed to germinate. G. Trowbridge. *Camden, N. Y.*

[For the Country Gentleman and Cultivator.]

Todd's Young Farmer's Manual.

Messrs. Tuckers—I have at last given the "Young Farmer's Manual," by S. Edwards Todd, a pretty thorough perusal, and I think it the best book for the young farmer I have met with, and am satisfied thousands could learn enough from it to be worth far more than the price of hundreds of the books. Could I have obtained such a book forty years ago, and taken the advice contained in it, it would have been worth a great deal to me. I think we have nothing like it in all the agricultural libraries that I have seen. It treats of the mechanical part of farming, and it ought to be in the hands of every farmer. Farmers should put it in the hands of their sons and hired men, that they may learn to put edge tools in order, and to handle them with skill. There is a short chapter in it on Draining, which is practical, and of great value to farmers commencing draining. Every farmer ought to have a copy of the Young Farmer's Manual—the oldest can learn something from it. John Johnston. *Near Geneva, N. Y.*

Large Litter.—You gave an account, some time ago, of a valuable sow. I have a sow that brought her second litter about 5 weeks ago. I sold 12 fine pigs, four weeks old, and have three good ones and one runt left. Sixteen pigs in all. I think that is doing pretty well. H. C. D.

THE CULTIVATOR.

ALBANY, N. Y., JANUARY, 1861.

☞ The "Lectures on Agricultural Chemistry" delivered in December last before the Smithsonian Institution at Washington, by Prof S. W. JOHNSON of Yale College, have been published in pamphlet form. Bringing much sound common sense to the task of elucidating scientific truths, Prof. J. is known by those familiar with his previous writings, for a style precise in language and clear in illustration, while he is eminently cautious in limiting, or generalizing, as the case may be, the conclusions to which he arrives.

"The great practical lessons," he remarks for instance, with regard to the use of manures, as "taught by experience and confirmed by science, are, *save all refuse which contains any of the elements of vegetation; apply abundantly the mixed ingredients of the dung and compost heaps.* As concerns commercial and saline manures, such as guano, salt, plaster, lime, &c., *experiment with them repeatedly and accurately on the small scale, so as to learn what the crops say about their value.* Where phosphates have been heavily applied, it is probable that ammonia or nitrogenous manures, or perhaps lime or potash, may next exert the most beneficial action, and *vice versa.* Be sure of *enough*, not only as regards the quantities, but also the kinds of matters applied. * * * The recent progress of knowledge, thanks to the scientific farmers and agricultural philosophers of England, Germany, and France, demands a series of chapters on manures that are as yet unwritten, but, when rightly produced, will be alike novel, interesting, and useful to the true American farmer, who cultivates with equal assiduity the 'soil and the mind.'"

We trust that Prof. JOHNSON himself will give to the world ere long, the results of his own labors in this field. The want he has perceived is one which he is peculiarly qualified to supply.

☞ The Editor of the American Short-Horn Herd Book, LEWIS F. ALLEN, Esq., of Black Rock, has issued the Prospectus of his Fifth Volume—designing it to appear at the expiration of about two years from the publication of the Fourth, in May, 1859.

"Our American cattle herds," remarked Mr. A. in the preface to his last volume, "are as firmly fixed an element of agricultural production and wealth here, as are those of the English, Scotch or Irish farmers, and it will be our own fault only if we suffer such an important branch of our domestic industry to deteriorate or fail."

This is a statement which is just as true now as when it was written, and of probably still wider application. We quote it—although not referred to in any way in Mr. Allen's Prospectus, because, as our breeders begin to approach more nearly the English standard, and consequently to import less from Great Britain,—the agricultural public, no longer or far less frequently called upon to stare over immense prices for new-comers, may carelessly fall into the opinion that therefore "Short-Horns have had their day,"—and some breeders of them consequently become negligent in registering their pedigrees.

On the contrary, we can but think the evidences of the value to the country of our improved herds, never more numerous than they are at the present moment, and the fact of fewer importations is far less owing to any lack of interest in farther advancement, than because as just intimated, we have reached a point where we can afford to direct our attention to breeding at home, instead of to purchases abroad. The Fourth Volume of the American Herd Book, with its nearly three thousand pedigrees, will probably now be followed by as many more, of animals almost wholly bred upon our own soil; and while it is scarcely necessary to warn our breeders generally of the importance of placing the pedigrees of their stock on record, beyond the reach of loss or error, we may take the opportunity now afforded to suggest to farmers that with the wider diffusion of better blood among us, there will every day be less and less excuse for those who fail to contribute their share toward rendering each generation of the live stock of the country more valuable than the one which preceded it.

$5,000 SPENT IN DRAINING A FARM.—T. C. MAXWELL & Brother of Geneva, to whom were awarded the first premium of the State Ag. Society in 1849, have laid over fifty miles of drain tile at an aggregate cost of $5,000. Their farm is a gravel and clay loam, in some parts hard clay subsoil; and the work has been principally done by hand. In the last 30 acres, on which this premium was awarded, the cost of digging was reduced from 34 to 30 cents, by using a common plow for opening the drains at first, and afterward a subsoil plow to loosen the earth. In regard to the amount invested in this improvement they say in their statement: "$5,000 would seem to be a very large expenditure—but our lands are greatly improved in tilth and friability, and our crops are increased both in quality and quantity; hence we are thus far well satisfied with the investment." So is every one who drains heavy soils with proper thoroughness and judgment.

PRICES OF FARM PRODUCTS IN CHINA.—The London Gardener's Chronicle furnishes us the tariff of prices paid for the supplies furnished the allied armies of England and France by the Chinese contractors. We have changed the currency from the English into our dollars and cents. It says: "Bullocks are divided into three classes. The first weigh about 500 lbs., and cost $25 per head; the second, weighing about 400 lbs., are fixed at $20; the third, about 300 lbs., are $15 each. Sheep of all sizes cost $3 per head. Beef and mutton are also sold by retail, the first at 6 cents, the second at 8 cents per pound. Tea is 29c., sugar 8c., and flour 5c. per lb. Onions, turnips, and pumpkins, 5 lbs. for 1 cent; fowls 18c., and ducks 41c. each. The finest grapes may be had in abundance at 6c. per lb.; the largest peaches at 2c. each. Watermelons—most refreshing of fruits and large enough for a dozen,—cost 10c. each. Ice in large blocks of 25 lbs., pure and clear as the finest Wenham Lake, is sold for 12c. a block. There is any quantity of forage of every description—hay, millet stalk, green grass, paddy, peas, beans, and Indian corn. Coal costs 1c. and charcoal 2c. a pound. Coolies receive 24c. per day per man. Supplies of every description are abundant and excellent. The mutton is fat and well flavored, and no finer grapes or peaches are grown than those which now come to Tien-tsin market. A favorite fruit with the Chinaman is the classic Lotos, in shape like a small melon; [what can this be?] it is full of stoneless kernels, sweet and pleasant to the palate. Often and often have I eaten them without experiencing the dreamy sensations they are said to produce.

MATCHING HORSES.—S. K. STOW, in a report on horses, in the last State Transactions, suggests that in matching horses it is far more important to select those of like qualities in gait, speed, and action, than to make looks the criterion. He says: "A man explores the country for a hundred miles in circuit in search of a horse to match one he already owns, and imagines he has got a good match when he has found one merely of like size and color. No such thing; he has only spoiled both. If dissimilar in the qualities which constitute a match, by uniting them together in service, he diminishes instead of increasing their value, since each will be forced into the vices of the other." This fact is too often disregarded.

☞ We noticed a number of weeks ago the Hereford purchases lately made at English sales on account of FRED. WM. STONE, Esq, of Guelph, C. W. The Mark Lane Express mentions their departure for their Canadian destination as follows:—"On the 24th the steamer Anglo-Saxon sailed from Liverpool with one of the largest and most choice selection of these animals we have ever known

leave our shores at one time. They were purchased at the recent sale of Lord Bateman's herd by Mr. J. J. Stone of London, for his brother, Mr. F. W. Stone of Moreton Lodge, Guelph, Canada West, who has long been a very successful breeder of Short-Horn cattle and Cotswold sheep; but now having added another farm to his estate, he is about to commence breeding Herefords."

THE YALE AGRICULTURAL LECTURE COURSE for February, 1861—as already announced in our columns—will be similar to that conducted during the corresponding month the past year: and we may repeat now, what we have said before, that it is difficult to imagine how any young farmer can spend a month to better advantage—or, at least, in the midst of greater opportunities for adding to his stock of information—than at New-Haven for the four weeks included in the prosposed programme. The Lecture fees are but a trifle, and the personal expenses during that time need not be extravagant; while the opportunities afforded for mutual discussion, aside from the Lectures themselves, constitute a most attractive and useful feature.

Full programmes of the course will soon be issued. At present it is sufficient to mention that the following gentleman have agreed to be present and take part in the proceedings of the month:—Messrs. Wilder, Grant, Barry and Parsons on Pomology and kindred subjects; Quincy, Bartlett, French and Tucker on Farm Crops, Manures, &c.; Silliman, Johnson, Eaton and Dadd on Science; Morris, Howard and Dickinson, on Domestic Animals. Moreover, during the last week a course of four lectures will be given on the subjugation and education of the horse, accompanied with demonstrations upon the living animal. The Course commences Feb. 5th, and continues through the month. Programmes containing full particulars may be obtained on application to Prof. JOHN A. PORTER, New-Haven, Ct.

☞ At the annual meeting of the Susquehanna Valley Agricultural Society, held Dec. 8th at Unadilla, the following persons were elected officers for the ensuing year:

President—IRA E. SHERMAN, Sidney.
Vice-Presidents—Lewis S. Peck, J. J. Rogers, Unadilla; George S. Bidwell, Ralph Dewey, Sidney.
Treasurer—Clark J. Hayes, Unadilla.
Secretary—Robert W. Courtney, Sidney.
Directors—William J. Hughston, Sidney; Samuel Chaffin, Unadilla, S. G. Cone, John Hough, Abner Johnston, and W. T. Hodges, hold over.

Note from the Secretary.—MESSRS. TUCKER & SON: As you like to "make a note of" premium crops, I have one that you may "put upon record" as the best reported in the Susquehanna Valley, and excelled by few in any other valley of our State. Mr. ABNER JOHNSTON of Sidney Plains, raised 81½ weighed bushels of winter wheat on two acres of land, the past season. The land was free from trees or stumps. Summer fallowed in the summer of 1859, by plowing early and turning under with the sod a heavy coat of barn-yard manure and thoroughly mixing, and sowing the last of August. R. W. C.

☞ To the Dairy of our friend Mr. C. S. MACK of Lockport, we are indebted for an extraordinarily nice new SAGE CHEESE,—although so new, very rich, and manifesting such evident skill in the manufacture as to meet with high commendation from all who have tasted it. To the orchard of Mr. JURIAN WINNE of Bethlehem, for an assorted barrel of fine APPLES, including handsome specimens of several favorite varieties; and to the kindness of the same gentleman, for a noble WILD TURKEY received by him from friends in Canada, and of the merits of which we shall be able to speak still more understandingly after our Christmas Dinner for 1860 shall have been numbered among the events of the past.

☞ C. S. WAINWRIGHT, Esq., of Duchess Co., so widely known as one of our leading breeders of Devon cattle, having a heifer which would not breed, has been feeding her for beef for some time past. She is particularly referred to in JOHN JOHNSTON'S letter in another column where his opinion of her merits will be found expressed at some length. We learn through the columns of the N. Y. Tribune that she has just been sold for the price referred to by Mr. J. ($150,) to a New-York butcher, who seems to be very fortunate in picking up nice beef, as he has also just purchased 27 four year old fat grade Short-Horn Steers averaging about 1,750 lbs. each, from our friend JAMES O. SHELDON, Esq., White Springs Farm, Geneva, likewise intended for Holiday consumption by city epicures. We should like to have bespoken a joint from each lot, in order to test in a private way on the French system the comparative merits of the two breeds in the quality of the beef they produce.

THE CANADA BUSHEL.—By an act of Parliament the weight of a standard bushel of the different kinds of grain, seed, roots, &c., in Canada is fixed as follows:

Wheat,	Sixty pounds.
Indian Corn,	Fifty-six pounds.
Rye,	Fifty-six pounds.
Peas,	Sixty pounds.
Barley,	Forty-eight pounds.
Oats,	Thirty-four pounds.
Beans,	Sixty pounds.
Clover seed,	Sixty pounds.
Timothy seed,	Forty-eight pounds.
Buckwheat,	Forty-eight pounds.
Potatoes, Turnips, Carrots, Parsnips, Beets and Onions,	Sixty pounds.
Flax seed,	Fifty pounds.
Hemp seed,	Forty-four pounds.
Blue-grass seed,	Fourteen pounds.
Castor beans,	Forty pounds.
Salt,	Fifty-six pounds.
Dried Apples,	Twenty-two pounds.
Dried Peaches,	Thirty-three pounds.
Malt,	Thirty-six pounds.

THE QUEENS CO. AG. SOCIETY—PREMIUM CROPS.—The Annual Meeting of the Queens County Ag. Society was held last week Monday at the Court House, Hempstead. We are indebted to Mr. Secretary HAROLD for an account of the proceedings. The following Premium Crops are worth "making a note of." Avoiding minute fractions, 167 weighed bushels winter wheat were produced upon 4 1-5th acres of land, by John Conn, farmer to A. McDonald, Esq., Flushing, eight large fruit trees standing in the lot and lessening the crop materially. The premium crop of potatoes, (Mercers,) was at the rate of 358 bushels per acre, taken by Geo. R. Underhill, Oyster Bay. The best crop of Onions, a fraction over an acre, yielding about at the rate of 1,000 bushels per acre, was grown by Daniel Smith of Oyster Bay. One or two garden crops we reserve for a future note. The following officers were elected for the ensuing year:—

President—DANIEL K. YOUNGS, Oyster Bay.
Vice President—Robert Willetts, Flushing.
Secretary and Treasurer—John Harold, Hempstead.
Directors—for three years—R. E. Thorne and Rich'd McCormick.

☞ List of Members of the Ohio State Board of Agriculture as just chosen for 1861:

President—DARWIN E. GARDNER,* Toledo, Lucas Co.
Rec. Secretary—Wm. Dewitt,* Cleveland,
Treasurer—C. W. Potwin,* Zanesville.
N. S. Townshend, Avon, Lorain Co.
T. C. Jones, Delaware, Delaware Co.
Henry B. Perkins, Warren, Trumbull Co.
James M. Trimble, Hillsboro, Highland Co.
David Taylor,† Columbus.
John Reber, Lancaster, Fairfield Co.
John M. Milliken,* Hamilton, Butler Co.
Cor. Secretary—John H. Klippart,* Columbus, Ohio.

The election of members and officers took place Dec. 6—those marked * were re-elected, the one marked † is a new member, the others hold over until Dec., 1861.

THOROUGH-BRED STOCK FOR MISSISSIPPI.—Hon. J. ALEX. VENTRESS of Woodville, Wilkinson Co., Miss., has recently purchased from P. B. TYLER, Esq., Springfield, Mass., the thorough-bred Devon bull "Albert 3d," and a thorough-bred African buck. Also, from D. B. LOGAN, Esq., Morristown, N. J., three thorough-bred Tartar sheep (one buck and two ewes.) This stock has been shipped to his plantation in Mississippi.

ALSIKE CLOVER.—In answer to several inquirers, and as will be noticed from his advertisements in another column, R. L. ALLEN, 189 & 191 Water St., New-York, has Alsike Clover seed for sale, as well as a large and valuable assortment of Seeds and Implements for the Farm or Garden.

[For the Country Gentleman and Cultivator.]

WINTER CARE OF COLTS.

EDS. CO. GENT.—In your issue for Dec. 6th, H. C. D. inquires how to winter his colts. Not claiming to be "one of the best horse raisers," perhaps you will think it presuming on my part to give my experience on the subject; but perhaps it may be of some benefit to some one; in the meantime I hope that this will not prevent others from giving their experience, for which I shall look with a good degree of interest.

For two colts I would prefer a building 24 feet square, with an earth floor; then put 6 inches or more of spent tan or sawdust on for absorbing the urine; fit a feeding box on one side, and with a small yard attached, you have a fine place for them.

Then for feed give fine hay if early cut, or if of second growth, all the better; and, if possible, for grain I would advise H. C. D. to get some oil cake meal and wheat bran, or shipstuffs, or shorts, as some call them; and give them a pint or quart of oil cake meal, and from 2 to 4 quarts of bran mixed to each per day, and your colts will be as playful as kittens, and in fine order next spring. If the above cannot be had, give 2 quarts of sweet apples, or sweet and sour mixed if you have them, and one or two quarts of oats each per day, and I think you will have fine colts.

If H. C. D. cannot give as much room as mentioned above, 12 feet square will do. It may be necessary to have separate feeding boxes, and to tie your colts up when feeding grain. If you do not get better advice, please try the above and report progress. Your stable may be roughly made of boards, and covered with poles and straw if no better can be had. JONATHAN TALCOTT. *Rome, Dec. 7.*

KEYSTONE CORNSTALK CUTTER AND GRINDER.

Keystone Fodder Cutter,

Hide Roller Cutters,

Corn Shellers, for Hand and Power,

Hay Presses, &c., &c.

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RURAL ANNUAL AND HORTICULTURAL DIRECTORY,

FOR 1861.

The Sixth Annual number of the RURAL ANNUAL AND HORTICULTURAL DIRECTORY is now ready. Among its contents are Treatises on

THE FARMER'S KITCHEN GARDEN, 2 illustrations.
SHADE AND ORNAMENTAL TREES, 8 illustrations.
MANAGEMENT OF WINDOW PLANTS, 14 illustrations.
CULTIVATION OF EVERLASTING FLOWERS.
ORNAMENTAL HEDGES, 1 illustration.
SULPHER FOR MILDEW ON THE GRAPE, 3 illustrations.
RURAL ARCHITECTURE, 34 illustraiions.
ORNAMENTAL FOUNTAINS, 3 illustrations.
CONSTRUCTION OF GATES, 10 illustrations.
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1861 THE ILLUSTRATED ANNUAL 1861

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Among other valuable chapters, the ANNUAL REGISTER for 1861 will contain the following:—

I. WORKING MEN'S COTTAGES—Seventeen Engravings.
1. Important Advantages of their Erection.
2. Design for a Cottage of the Smallest Size.
3. Design for a Cottage on a somewhat Larger Scale.
4. Design for a Cottage of better class or for a small Farm House.
5. Design for a somewhat more costly Cottage.
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7. A Design by J. M. Wade, with modifications

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1. Plan of a Village Half Acre Garden.
2. Simple but Graceful Arrangement of Pleasure Grounds.
3. Laying out a Western Farm.

III. PRUNING AND TRAINING ROSES—Eleven Engravings.
1. Tree Roses; two modes with figures.
2. Weeping Roses.
3. Pillar Roses.

IV. NEW FRUITS AND POMOLOGICAL NOTICES—Twenty-one Engravings.
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2. Notes on Strawberries—Results of the Farther Experience of the Year.
3. Pruning Dwarf Pears.
4. Accurate Portrait of a Dwarf Pear Tree in Bearing.
5. How to Obtain Fruit in New Places.

V. STRUCTURES FOR GREEN HOUSE PLANTS—Ten Engravings.
1. Construction and Management of the Cold Pit.
2. The Conservative Pit.
3. Ward's Cases.
4. The Window Case and Aquarium.
5. Translucent Paint for Glass.

VI DOMESTIC POULTRY—Thirty-three Engravings.
1. Origin of Domestic Fowls.
2. Descriptions at Length of the Different Breeds.
3. Management of Poultry.
4. Five Designs for Poultry Houses.
5. Nests, Pens, Coops, Feeding Hoppers, &c.
6. Diseases of Poultry.

VII. WEEDS AND THEIR DESTRUCTION—Twenty-one Engravings.
1. General Rules for their Prevention and Extirpation.
2. Annual and Biennial Weeds.
3. Simple Perennial Weeds.
4. Creeping Perennial Weeds.
5. Noxious and Intruding Shrubs.

VIII. FILTERS, AND FILTERING CISTERNS—Five Engravings
1. Construction of Portable Filters.
2. Another Plan for the Same.
3. Filters attached to the Cistern.

IX. AGRICULTURAL NOTES.

X. HORTICULTURAL NOTES.

XI. RURAL MISCELLANY.

XII. DOMESTIC ECONOMY, &c., &c.

XIII. ADVERTISEMENTS

This, preceded by the usual Calendar pages and Astronomical Calculations, forms a book which is certainly cheap at its retail price, while the Publishers may especially call attention to the pithy and appropriate HINTS FOR THE MONTH which appear upon the Calendar pages, as embracing in the most concise form many valuable suggestions—to the article on WORKING MEN'S COTTAGES, for the neat and useful Design it contains—to those upon ROSES and GREEN HOUSE Structures for their beautiful illustrations—to that upon POULTRY as the most complete chapter upon the subject yet presented in equal space, accompanied as it is by so many Engravings—and to that upon WEEDS and their Destruction, as presenting just the information which every Farmer requires, with cuts by which he can compare the most common and troublesome of these intruders, and appropriate practical directions how to get rid of them.

THE PUBLISHERS, with the view of rendering the circulation of the ANNUAL REGISTER for 1861, still wider and larger than that of any previous Number, are prepared, as above intimated, to offer the most liberal Terms for its introduction in quantities, either to Agents, Agricultural Societies, Nurserymen, Dealers in Implements and Seeds, or any others who take an interest in the dissemination of useful reading, and in the promotion of Rural Improvement.

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ALBANY, N. Y., JAN. 1, 1861.

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Contents of this Number.

THE FARM.

The Object of Agricultural Reading—Claims of THE CULTIVATOR, 9
Don't Attempt too Much, 10
Cultivation and Management of Sandy or Light Soils, 11
O'Rully's American Terracultor, 13
Material for Water Pipes, 14
Husking Corn, by S. EDWARDS TODD, 14
Mulching Wheat with Buckwheat, 14
Home Made or Cheap Farm Scales, by WILLIAM PEASE, 15
Implements for Cultivating Root Crops, by W. J. PETTER, 16
Self-Recuperative Power of Worn Out Lands, by J. L. EDGERTON, 16
Culture of Corn and Potatoes, by J. L. R., 17
How to Bleach Broom Corn Brush, by L. J. T., 17
Farming on Long Island, by GEO. R. UNDERHILL, 20
Experiments in Corn and Potato Culture, by S. W. RAYMOND, 21
Brief Editorial Notes on Massachusetts Farmer's Clubs, 28
JOHN JOHNSON'S Letters from Dutchess County, 30
Best way of Saving Manure, 30
Culture of Carrots, by J. L. R., 31
Dwarf Broom Corn, by L. J. T., 34
How to Bleach Broom Corn, by E. GRAVES, 34
Todd's Young Farmer's Manual, by JOHN JOHNSTON, 34
Notes for the Month, 35
How to Dress Raw Hides, by WILLIAM RHODES, 37

THE GRAZIER AND BREEDER.

Prevalent Cattle Diseases, by J. L. R., 18
Fattening Hogs on Dry Corn, by W. HALL, 19
Cheviot Sheep. Description and Portrait, 25
Care of the Horse—Grooming, Feeding and Driving, 25
Mr. Wainwright's Devon Cattle, by JOHN JOHNSTON, 30
Winter Management of Sceep, 33
Large Litter of Pigs, by H. C. D., 34
Winter Care of Colts, by JONA. TALCOTT, 37
Cure for Black Scours in Cattle, 37

HORTICULTURAL DEPARTMENT.

A New French Tomato, 10
Peaches Shipped from Rochester, 17
Culture of Onions and Asparagus, by GEO. R. UNDERHILL, 20
How to take up Fruit Trees, 22
Culture of Dwarf Apples, 22
The Oporto Grape, by E. WARE SYLVESTER, 23
Fragrant Plants for House Culture, by G. B. H., 23
The Apple Worm, by F. POUND, 23
A New Species of Mahonia or Ashberry, 24
Western Apples—The Perry Russet, 24
Culture of Asparagus, by PETER COCK, 26
Horticultural Photographs, 26
The Cuyahoga Grape, 26
Horticultural Winter Work, by G. B. H., 29
American Black Raspberry, by C. F. WEBSTER, 29
How to Remove Scale or Bark Louse, by L. J. T., 29
How I saved my Plums, by L. J. T., 34
How to Grow Cauliflower and Broccoli, by G. THOWBRIDGE, 34

RURAL ARCHITECTURE.

Plan of a House, by C. J. C., 18
Balloon Frames, by GEO. E. WOODWARD, 19
Sun Dried Brick for Buildings, by H. B. O., 21
Wash for Buildings, by JOSEPH COPE, 27

THE DAIRY DEPARTMENT.

Exports of Butter and Cheese, 18
What makes Butter Streaky, by B., 27

THE POULTRY YARD.

Black Hamburgh Fowls, by C. N. BEMENT, 27
How to Fatten Turkeys, 27

THE BEE-KEEPER'S DEPARTMENT.

How Bee Clamps are made, by E. P., 21
How to Destroy Bee Moths, 21

DOMESTIC ECONOMY.

How to Destroy Bed Bugs, by S. B. B., 16
How to Cure Hams, 17
Preserving Shingles, 17
Making and Preserving Sausages, by ISABELLA L. JONES, 17
Making Vinegar, 27
THE COUNTRY GENTLEMAN'S Ink, by J. L. R., 27
Recipe for Making Vinegar Quickly, by JERSEY, 27
Recipes for Lemon Pie and Sally Lunn, 29

ILLUSTRATIONS.

O'Rielly's Terracultor, ... 13 | Transplanting Fruit Trees, ... 22
Farm Scales, four Cuts, ... 15 | Oporto Grape, ... 23
Root Cultivator, ... 16 | Apple Worm, ... 23
Plan of House, ... 18 | Mahonia Intermedia, ... 24
Balloon Frames, ... 19 | Cheviot Sheep, ... 25

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